

REPORT NO. 207-KAR-03-004

**SAFETY COMPLIANCE TESTING
FOR FMVSS 207**

SEATING SYSTEMS

2003 Honda
CIVIC DX
4 DOOR SEDAN

NHTSA NO. C35303

PREPARED BY:
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AUGUST 19, 2003

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
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SECTION 1
PURPOSE OF COMPLIANCE TEST

1. PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2003 Honda Civic DX4 Door Sedan, manufactured by HONDA Motor Company, to determine compliance with FMVSS 207, "Seating Systems". The purpose of this standard is to reduce the number of deaths and injuries that may be caused by the failure of seats, their attachment hardware, and their installation when said failure results from the forces on the seat in a vehicle impact.

All tests were conducted based on the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC) Laboratory Procedures, TP-207-09, dated June 18, 1992, and corresponding KARCO Engineering, LLC test procedure KTP-207, dated August 2, 2003. Detailed procedures for receiving, inspecting, testing and reporting of test results are described in the test procedures and are not repeated in this report.

This report is organized in sections containing pertinent test information and data tables as follows:

- Section 2 - Compliance Test Procedure and Data Summary
- Section 3 - Compliance Test Data
- Section 4 - Noncompliance Data (if applicable)
- Appendix A - Photographs
- Appendix B - Data Plots
- Appendix C - Test Equipment List and Calibration Information

SECTION 2
COMPLIANCE TEST PROCEDURE and DATA SUMMARY

2. COMPLIANCE TEST PROCEDURE AND DATA SUMMARY

A 2003 Honda Civic DX4 Door Sedan was subjected to FMVSS 207 compliance testing on August 18, 2003 thru August 21, 2003. All tests were conducted at KARCO Engineering, LLC in Adelanto, California. Summary data is shown on Data Sheet No. 2. The following tests were performed:

- Receiving inspection
- Aft moment tests on front seat backs
- Aft load tests on front seat frames and adjusters
- Forward load tests on front seat frames and adjusters
- Aft moment tests on rear seat backs
- Aft load tests on rear seat cushions and seat backs
- Forward load tests on rear seat cushions and seat backs

The tests were conducted per the FMVSS 207 test procedure. The significant aspects of the test procedure are described in the following paragraphs.

2.1 Test Vehicle Inspection. The test vehicle was inspected to verify that all seat, restraint systems and seat belt assembly anchorage systems are complete and the seat adjusting mechanisms are working properly.

2.2 Test Vehicle Preparation and Pre-test Measurements. The test vehicle was securely mounted to the test fixture and connected to the appropriate number of hydraulic actuators. Lateral spacing of the individual seat anchorages were measured and all other angular and dimensional measurements were verified to be in compliance with the requirements of the subject safety standards. The components were weighed and their centers of gravity determined.

2.3 Static Load Tests-General Performance Requirements.

When tested in accordance with S5, each occupant seat, other than a side-facing seat or a passenger seat on a bus, shall withstand the following forces:

- (a) In any position to which it can be adjusted -- 20 times the weight of the seat applied in a forward longitudinal direction;

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- (b) In any position to which it can be adjusted — 20 times the weight of the seat applied in a rearward longitudinal direction;
- (c) For a seat belt assembly attached to the seat — the force specified in subparagraph (a), if it is a forward facing seat, or subparagraph (b), if it is a rearward facing seat, in each case applied simultaneously with the forces imposed on the seat by the seat belt assembly when it is loaded in accordance with section S4.2 of Federal Motor Vehicle Safety Standard No. 210; and
- (d) In its rearmost position — a force that produces a 3,300 inch-pound moment about the seating reference point (SRP) for each designated seating position (DSP) that the seat provides, applied to the upper cross-member of the seat back or the upper seat back, in a rearward longitudinal direction for forward-facing seats and in a forward longitudinal direction for rearward-facing seats.
- (e) To meet FMVSS 210 requirements, the anchorages, attachment hardware, and attachment bolts for all Type 2 and automatic seat belt assemblies that are installed to comply with Standard No. 208 (49 CFR 571.208) shall withstand 3,000-pound forces when tested in accordance with S5.2.

SECTION 3
COMPLIANCE TEST DATA

3. COMPLIANCE TEST DATA

The results of FMVSS 207 compliance tests that were conducted on the 2003 Honda Civic DX 4 Door Sedan on August 19, 2003 to determine compliance with FMVSS 207, "Seating Systems" is presented in this section. No performance failures were identified for the vehicle tested.

DATA SHEET NO. 2
SEATING SYSTEM TEST RESULTS

VEHICLE			
YEAR	2003	MAKE	HONDA
MODEL	CIVIC DX	BODY STYLE	4 DOOR SEDAN
NHTSA NO.	C35303	VIN	2HGES15163H510524
BUILD DATE	10/02	TEST DATE	08/19/03
TEST LABORATORY	KARCO ENGINEERING, L.L.C.		

LEGEND: W_a - Weight of Seat Assembly

 W_b - Weight of Seat Back

 W_c - Weight of Seat Cushion

 Z - Distance from Seat SRP to Uppermost Crossmember = 18.0 "

FOR FRONT BUCKET SEATS - - LEFT SIDE

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	PEAK MOMENT (in-lbs)	ATTACHMENT (PASS/FAIL)
Seat Back	Forward	W _b = 12	20 x W _b = 240	N/A	N/A	N/A
Seat Assy.	Forward	W _a = 36	20 x W _a = 720	718.3	N/A	PASS
	Rearward	W _a = 36	20 x W _a = 720	718.1	N/A	PASS
Seat Back Moment	Rearward	N/A	3275 in-lb/Z	178.6	3214.8	PASS

FOR FRONT BUCKET SEATS - - RIGHT SIDE

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	PEAK MOMENT (in-lbs)	ATTACHMENT (PASS/FAIL)
Seat Back	Forward	W _b = 12	20 x W _b = 240	N/A	N/A	N/A
Seat Assy.	Forward	W _a = 34	20 x W _a = 680	677.8	N/A	PASS
	Rearward	W _a = 34	20 x W _a = 680	672.4	N/A	PASS
Seat Back Moment	Rearward	N/A	3275 in-lb/Z	178.4	3211.2	PASS

(Continued on next page)

DATA SHEET NO. 2.... Continued

FOR FRONT BUCKET SEATS -- COMBINED

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	ATTACHMENT (PASS/FAIL)
Driver Lap Belt	Forward	N/A	3,000 lbs, -10, -50	2989.9	PASS
Driver Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	2989.2	PASS
Center Lap Belt	Forward	N/A	5,000 lbs, -10, -50	N/A	N/A
Passenger Lap Belt	Forward	N/A	3,000 lbs, -10, -50	2987.5	PASS
Passenger Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	2989.7	PASS
Driver Seat Assembly	Forward	$W_a = 36$	$20 \times W_a = 720$	719.6	PASS
Passenger Seat Assembly	Forward	$W_a = 34$	$20 \times W_a = 680$	672.9	PASS

LEGEND: W_a - Weight of Seat Assembly

W_b - Weight of Seat Back

W_c - Weight of Seat Cushion

Z - Distance from Seat SRP to Uppermost Crossmember = 9.0 "

FOR REAR SEATS --

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	PEAK MOMENT (in-lbs)	ATTACHMENT (PASS/FAIL)
Rear Cushion	Forward	$W_c = 10$	$20 \times W_c = 200$	196.8	N/A	PASS
Left Back	Forward	$W_b = 12$	$20 \times W_b = 240$	238.0	N/A	PASS
Left Back	Rearward	12	$20 \times W_b = 240$	233.7	N/A	PASS
Left Seat Back Moment	Rearward	N/A	$3275 \text{ in-lb}/Z$	357.9	3221-1	PASS
Right Back	Forward	$W_b = 8$	$20 \times W_b = 160$	159.0	N/A	PASS
Rear Cushion	Rearward	$W_c = 10$	$20 \times W_c = 200$	195.7	N/A	PASS
Right Back	Rearward	$W_b = 8$	$20 \times W_b = 160$	158.1	N/A	PASS
Right Seat Back Moment	Rearward	N/A	$3275 \text{ in-lb}/Z$	363.4	3270.6	PASS

(Continued on next page)

DATA SHEET NO. 2... Continued
FOR REAR SEATS - - COMBINED

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	ATTACHMENT (PASS/FAIL)
Left Lap Belt	Forward	N/A	3,000 lbs, -10, -50	N/A	N/A
Left Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	N/A	N/A
Left Rear Seat Back	Forward	Wa = N/A	20 x 24 = N/A	N/A	N/A
Center Lap Belt	Forward	N/A	3,000 lbs, -10, -50	N/A	N/A
Center Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	N/A	N/A
Right Lap Belt	Forward	N/A	3,000 lbs, -10, -50	N/A	N/A
Right Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	N/A	N/A
Right Rear Seat Back	Forward	Wa = N/A	20 x 24 = N/A	N/A	N/A

COMMENTS:

RECORDED BY: MARK A. KRATZKE DATE: 08/19/03

APPROVED BY: MATTHEW A. IVORY DATE: 08/19/03

**DATA SHEET NO. 3
SEAT BACK ANGLES**

VEHICLE			
YEAR	2003	MAKE	HONDA
MODEL	CIVIC DX	BODY STYLE	4 DOOR SEDAN
NHTSA NO.	C35303	VIN	2HGES15163H510524
BUILD DATE	10/02	TEST DATE	08/18/03
TEST LABORATORY	KARCO ENGINEERING, L.L.C.		

LAP BELT ANCHORAGES:

SEAT	SEATING POSITION	SPECIFIED ANGLE RANGE ABOVE HORIZONTAL	MEASURED ANGLE		DOES BELT SECURELY FIT ON PELVIS?
			I/B	O/B	
FRONT	Left	30 to 75 degrees	48°	45°	YES
	Center	30 to 75 degrees	N/A	N/A	N/A
	Right	30 to 75 degrees	48°	45°	YES
REAR	Left	30 to 75 degrees	N/A	N/A	N/A
	Center	30 to 75 degrees	N/A	N/A	N/A
	Right	30 to 75 degrees	N/A	N/A	N/A

SHOULDER BELT ANCHORAGES:

SEAT	SEATING POSITION	SPECIFIED ANGLE RANGE ABOVE OR BELOW HORIZONTAL	MEASURED ANGLE
FRONT	Left	0 – 80 degrees above	62°
		0 – 40 degrees below	N/A
	Right	0 – 80 degrees above	58°
		0 – 40 degrees below	N/A
REAR	Left	0 – 80 degrees above	N/A
		0 – 40 degrees below	N/A
	Center	0 – 80 degrees above	N/A
		0 – 40 degrees below	N/A
	Right	0 – 80 degrees above	55°
		0 – 40 degrees below	N/A

RECORDED BY: MARK A. KRATZKE DATE: 08/18/03

APPROVED BY: MATTHEW A. IVORY DATE: 08/18/03

DATA SHEET NO. 4**REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING**

The following vehicle has been subjected to compliance testing for FMVSS No. 207

VEHICLE			
NHTSA NO.	C35303	TEST DATE	08/19/03
CONTRACT NO.	DTNH22-01-C-31025	VIN	2HGES15163H510524
SEAT CONFIGURATION			
VEHICLE OR SEAT MANUFACTURER		HONDA MOTOR COMPANY	
TEST LABORATORY		KARCO ENGINEERING, L.L.C.	

The vehicle was inspected upon arrival at the laboratory for the test and found to contain all of the equipment listed below. All variances have been reported within 2 working days of vehicle arrival, by letter, to the NHTSA Industrial Property Manager (NAD-30), with a copy to the OVSC COTR. The vehicle is again inspected, after the above test has been conducted, and all changes are noted below. The final condition of the vehicle is also noted in detail.

TEST VEHICLE INFORMATION			
Manufacturer	HONDA	VIN	2HGES15163H510524
Manufacturing Date	10/02	Delivery Date	03/15/03
Dealer	ANTELOPE VALLEY	NHTSA No.	C35303
Odometer Reading (mi.)	77	Fuel Type	GAS
Engine Displacement	4.6 LITERS	Cylinders	8
Transmission	AUTOMATIC	Final Drive	REAR
Engine Placement	LONGITUDINAL	Color	BLUE
Tire Press./Max. Cap. Front	32 psi	Cold Tire Press. Front	32 psi
Tire Press./Max. Cap. Rear	35 psi	Cold Tire Press. Rear	35 psi
Recommend Tire Size	P225/60 R16	Type of Spare	T145/80 D16
Tire Size on Vehicle	P225/60 R16	Manufacturer	GOODYEAR
GVWR	5804 lbs.	Cargo Capacity	200 lbs.
GAWR Front	2700 lbs.	GAWR Rear	3104 lbs.
Air Conditioning	YES	Power Steering	YES
Power Brakes	YES	AM/FM/Cassette	YES
Disc Brakes (Front)	YES	Disc Brakes (Rear)	NO
Power Windows	YES	Tilt Steering	YES
Anti-Lock Brakes (ABS)	YES	Power Seats	YES
Driver Airbag	YES	Passenger Airbag	YES

Test Vehicle Condition: **FRONT OF VEHICLE WAS REMOVED, SEATS WERE TESTED.**

RECORDED BY: MARK A. KRATZKE DATE: 08/19/03

APPROVED BY: MATTHEW A. IVORY DATE: 08/19/03

APPENDIX A
PHOTOGRAPHS

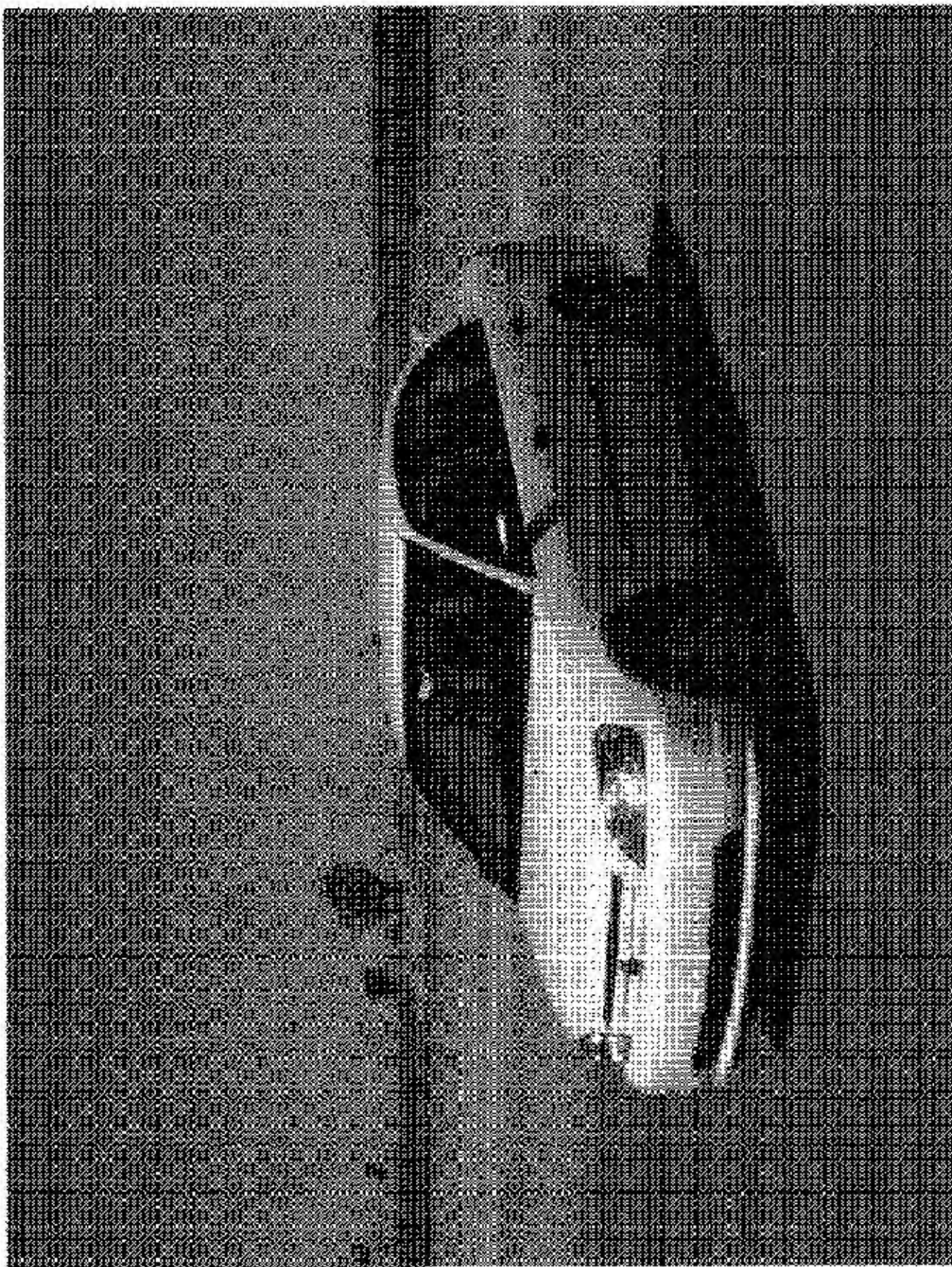


Figure A-1: Left Front (as Received)

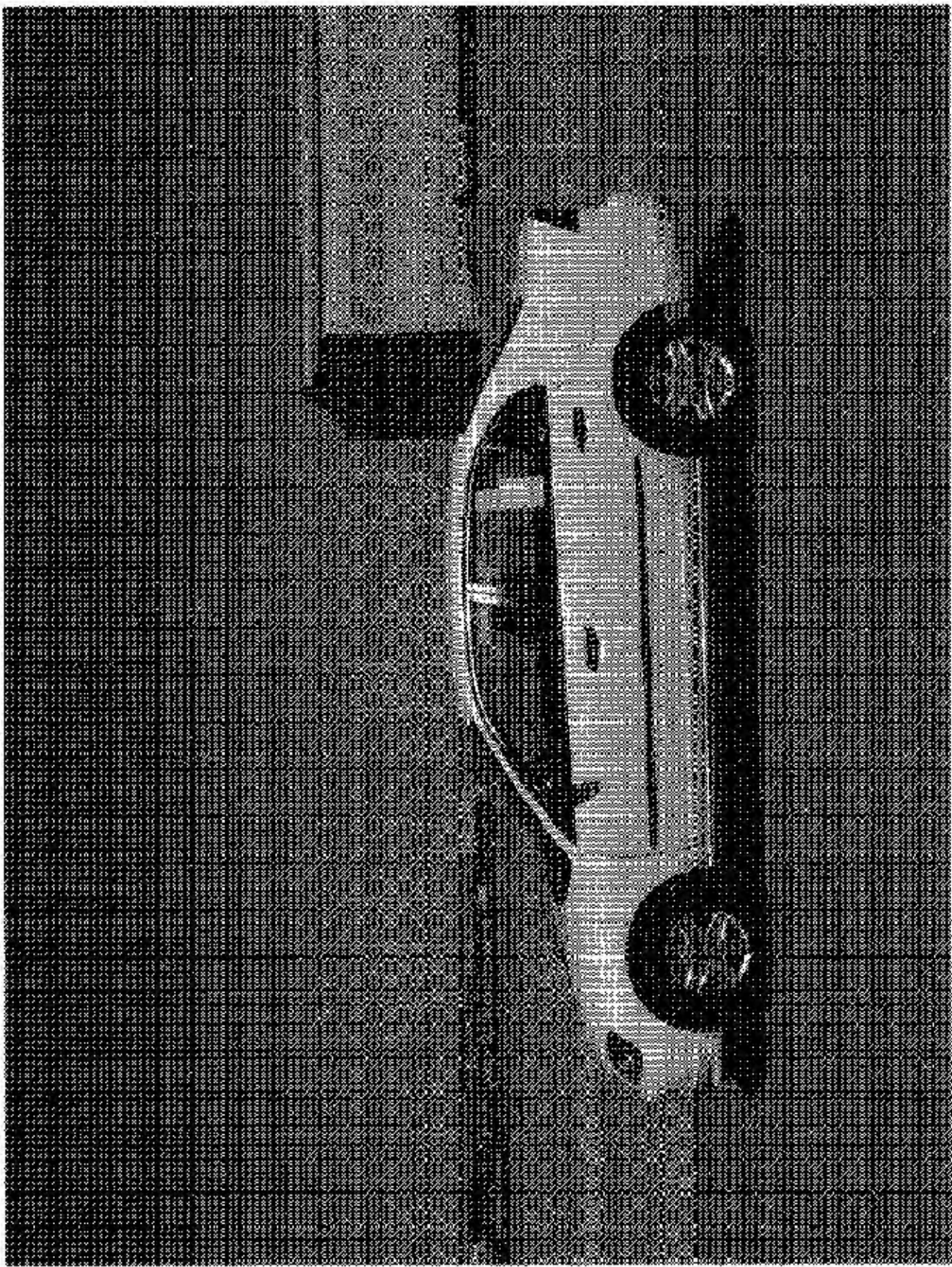


Figure A-2: Left Side (as Received)

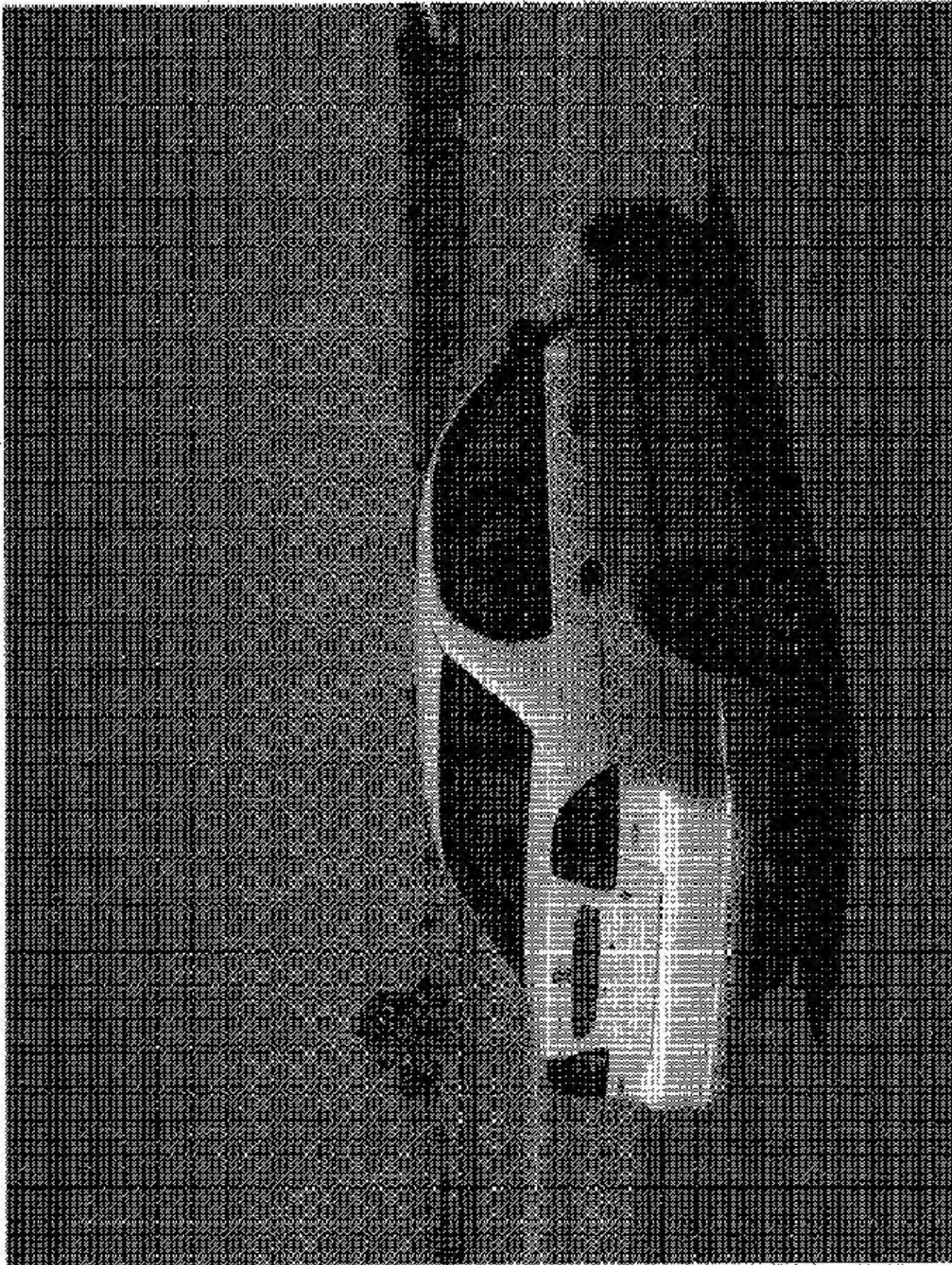


Figure A-3: Right Rear (as Received)

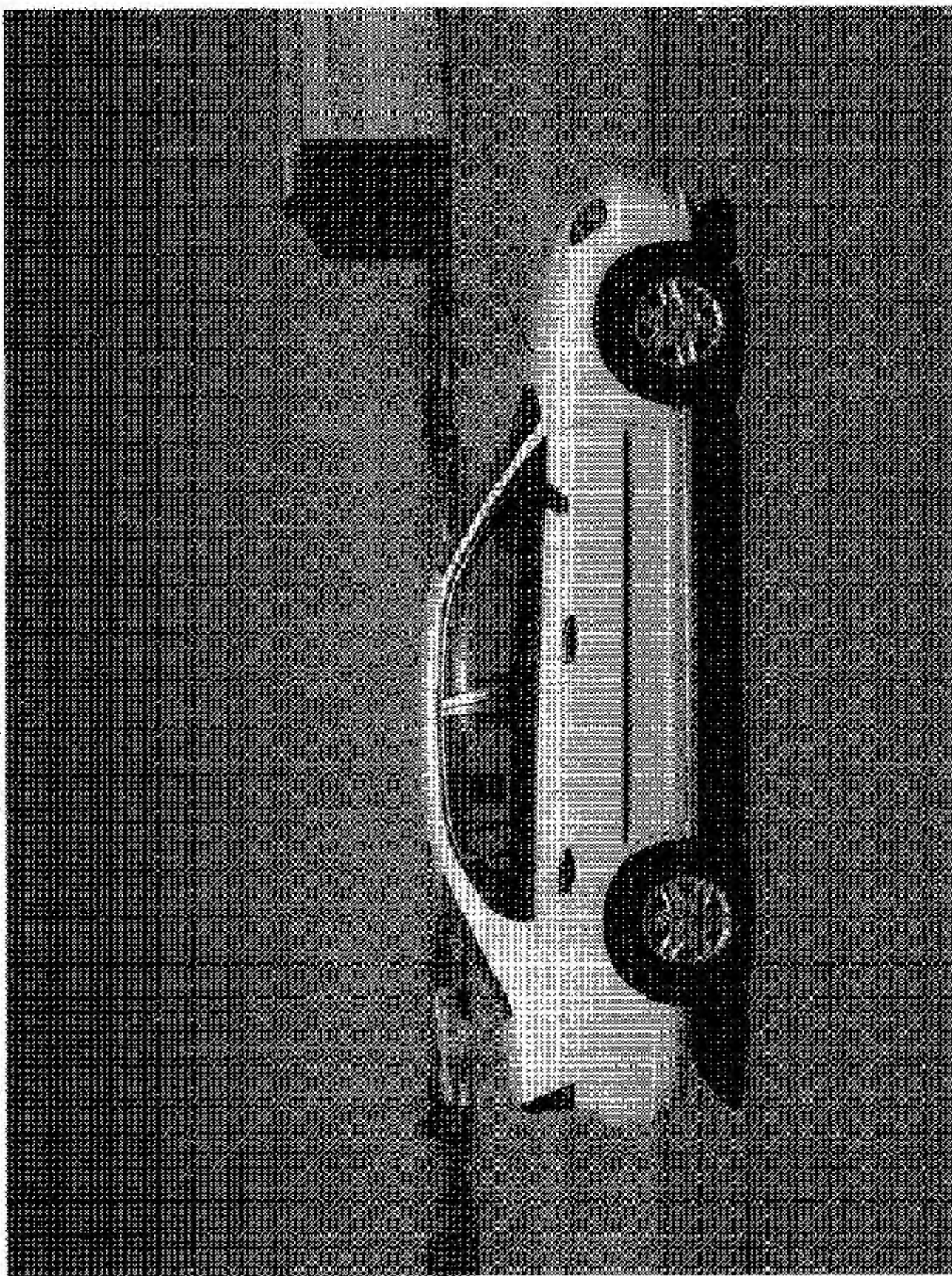


Figure A-4: Right Side (as Received)

MADE BY HONDA OF CANADA LTD.
A DIVISION OF HONDA CANADA INC.
CUMMULATIVE GROSS VEHICLE MILES
THIS VEHICLE CONFORMS TO ALL APPLICABLE
FEDERAL MOTOR VEHICLE SAFETY STANDARDS
AND THEFT PREVENTION STANDARDS IN EFFECT
ON THE DATE OF MANUFACTURE SHOWN ABOVE

VIN: 2HGCS15163H510524



PASSENGER CAR

Figure A-5: Vehicle Certification Label

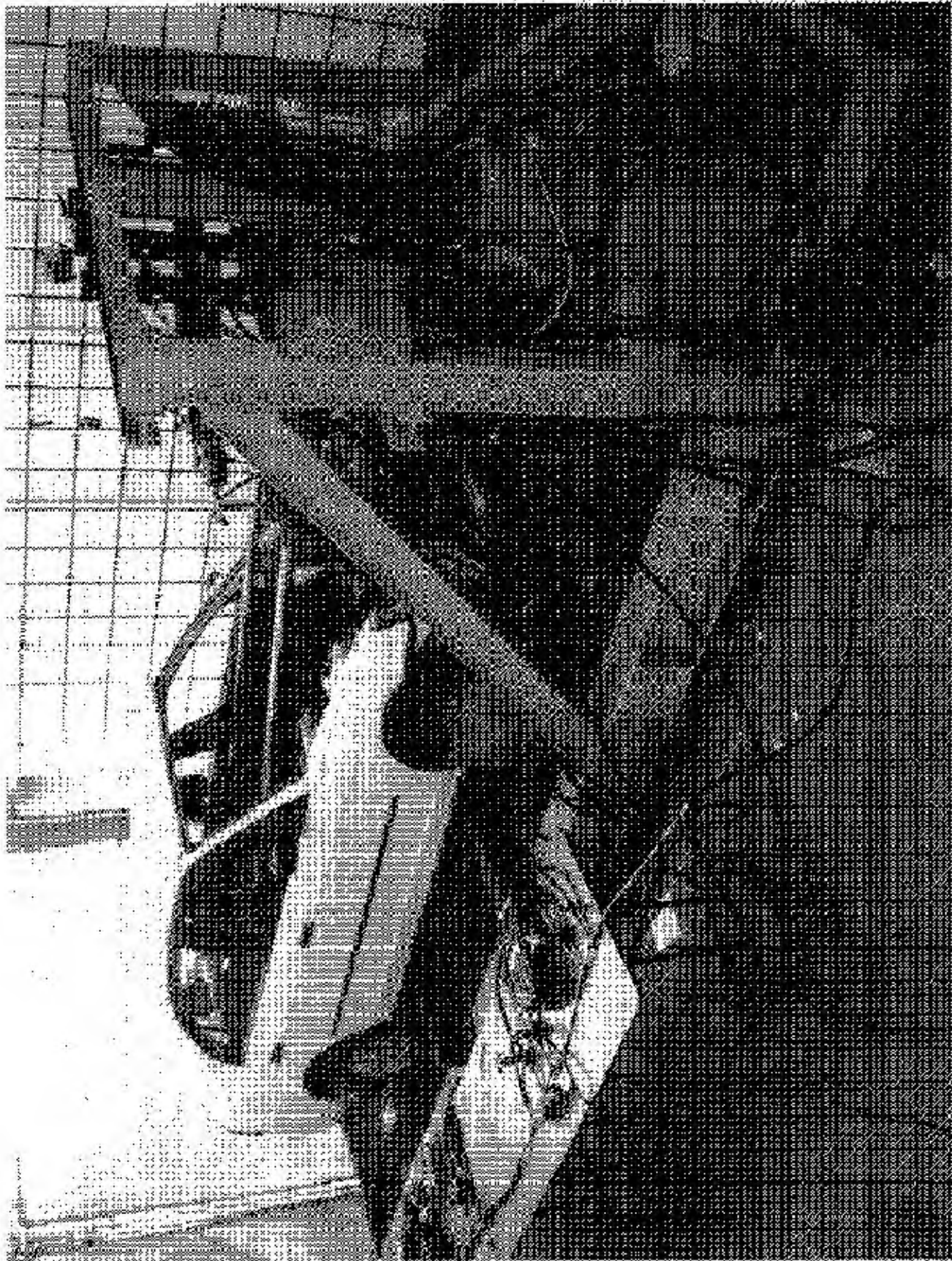


Figure A-7: Vehicle Mounted in Test Fixture

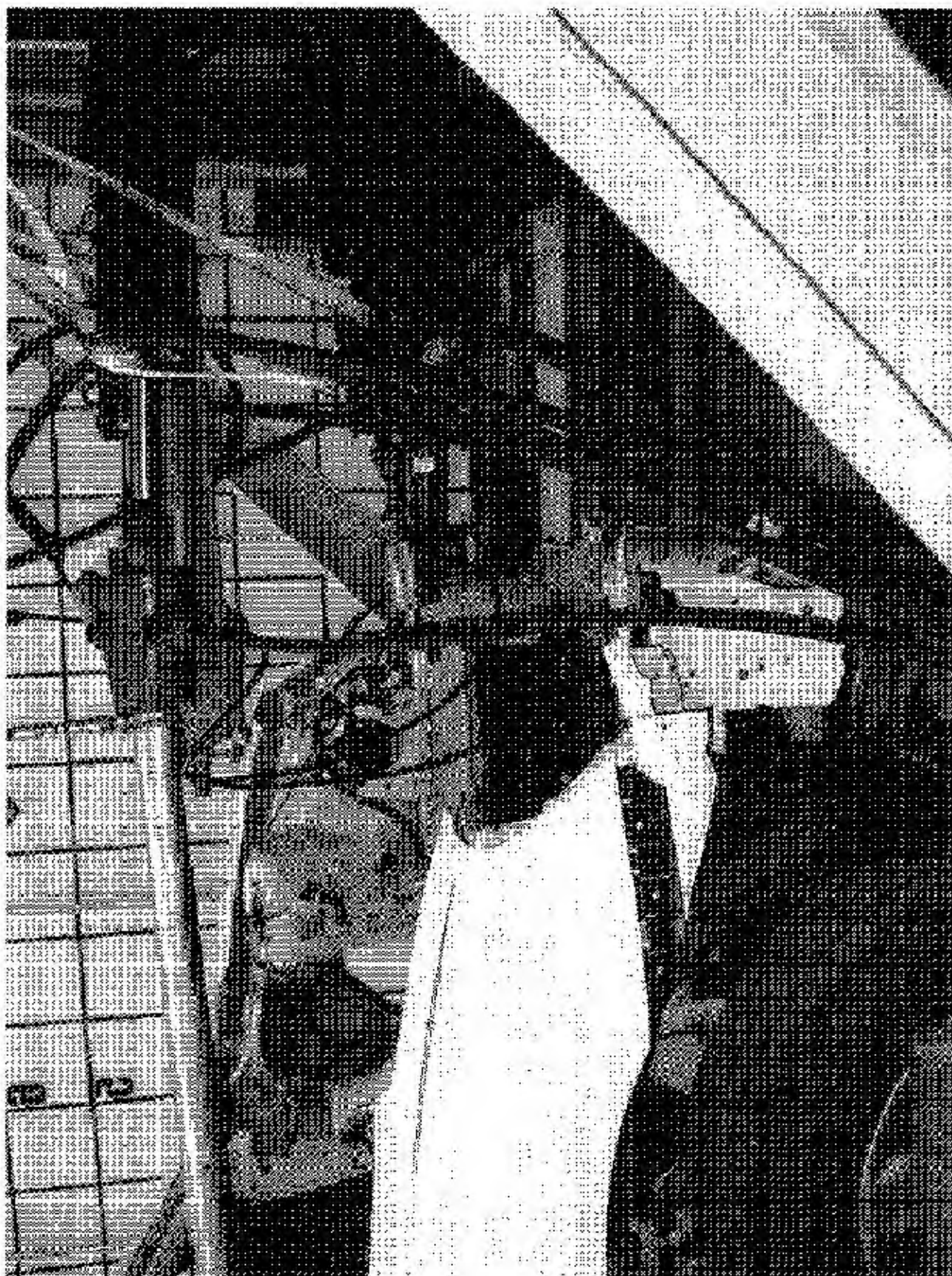


Figure A-8: Vehicle Mounted in Test Fixture

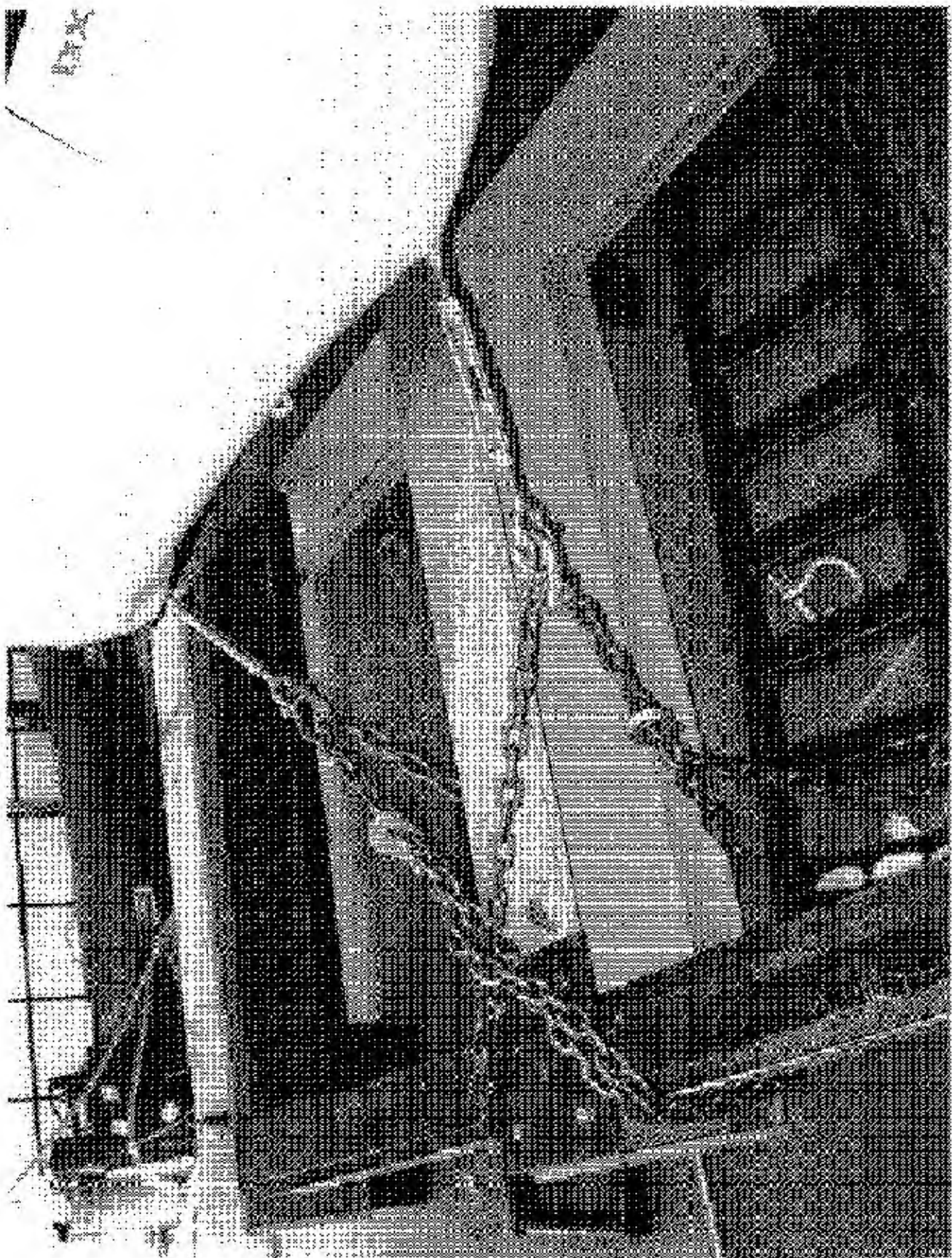


Figure A-9: Vehicle Mounted in Test Fixture

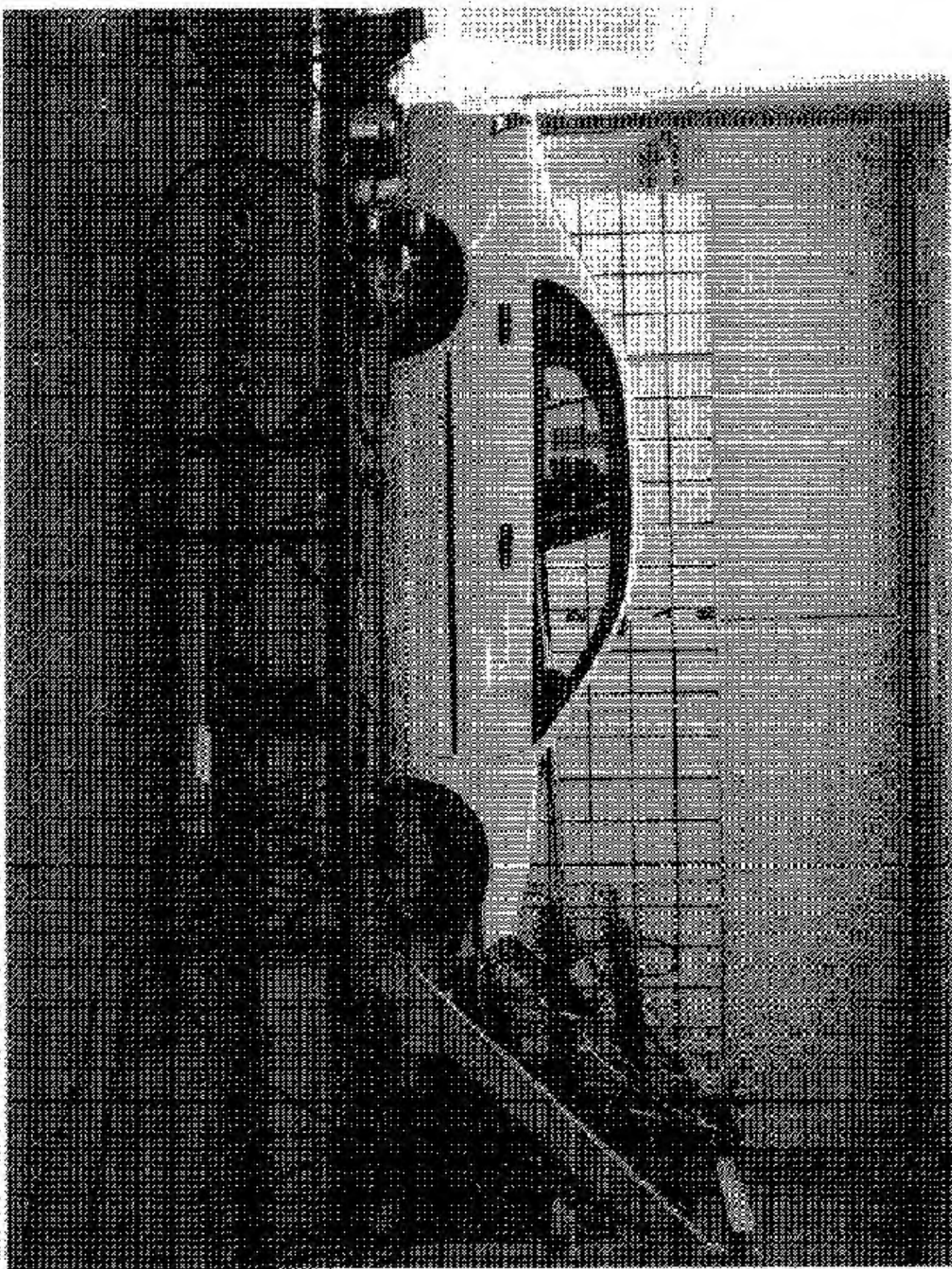


Figure A-10: Vehicle Mounted in Test Fixture

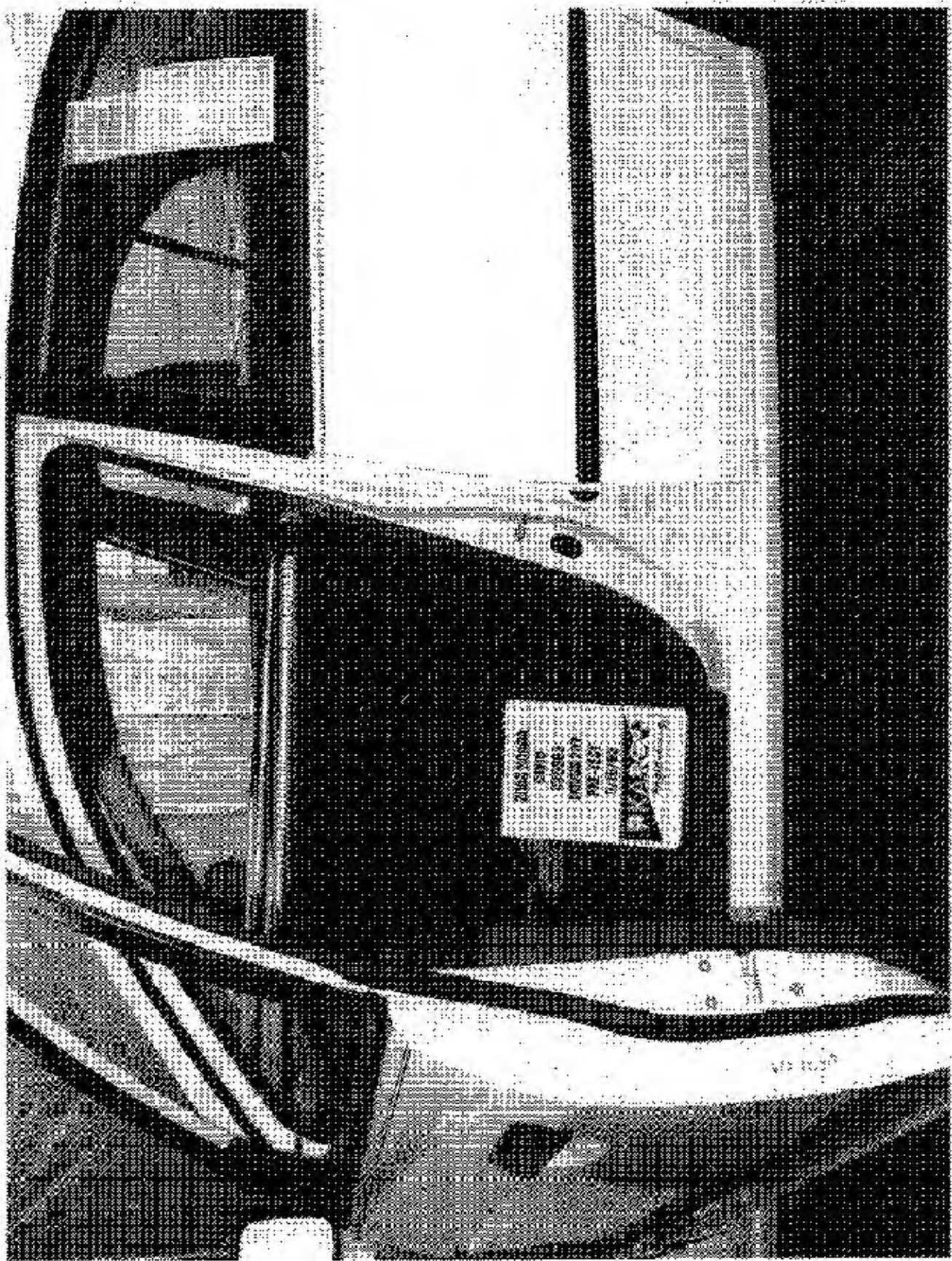


Figure A-11: Air Moment on Seat Frame and Adjusters, Driver's Side, Pre-Test



Figure A-12: Air Moment on Seat Frame and Adjusters, Driver's Side, Post-Test

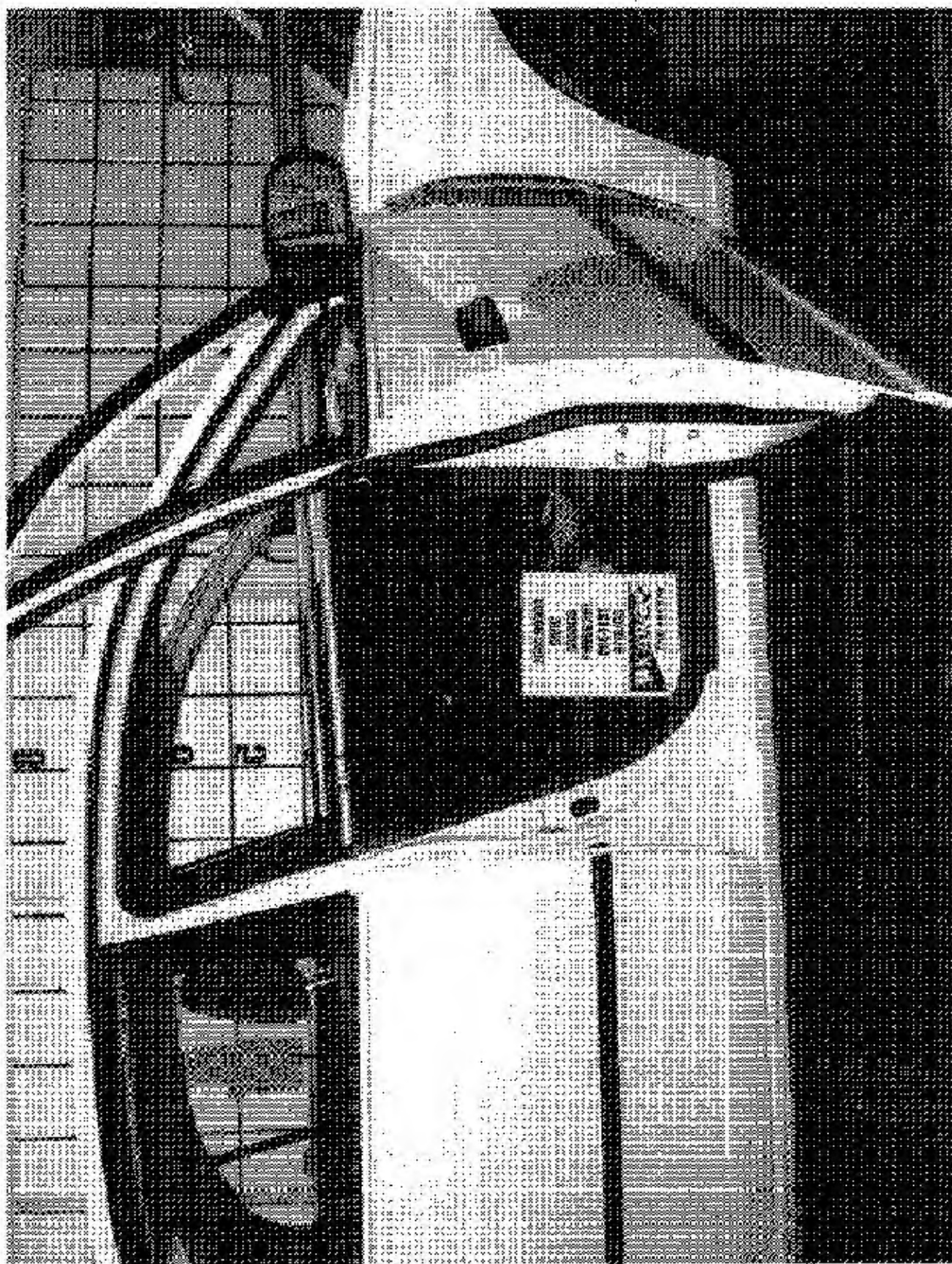


Figure A-13: Aft Moment on Seat Frame and Adjusters, Passenger's Side, Pre-Test

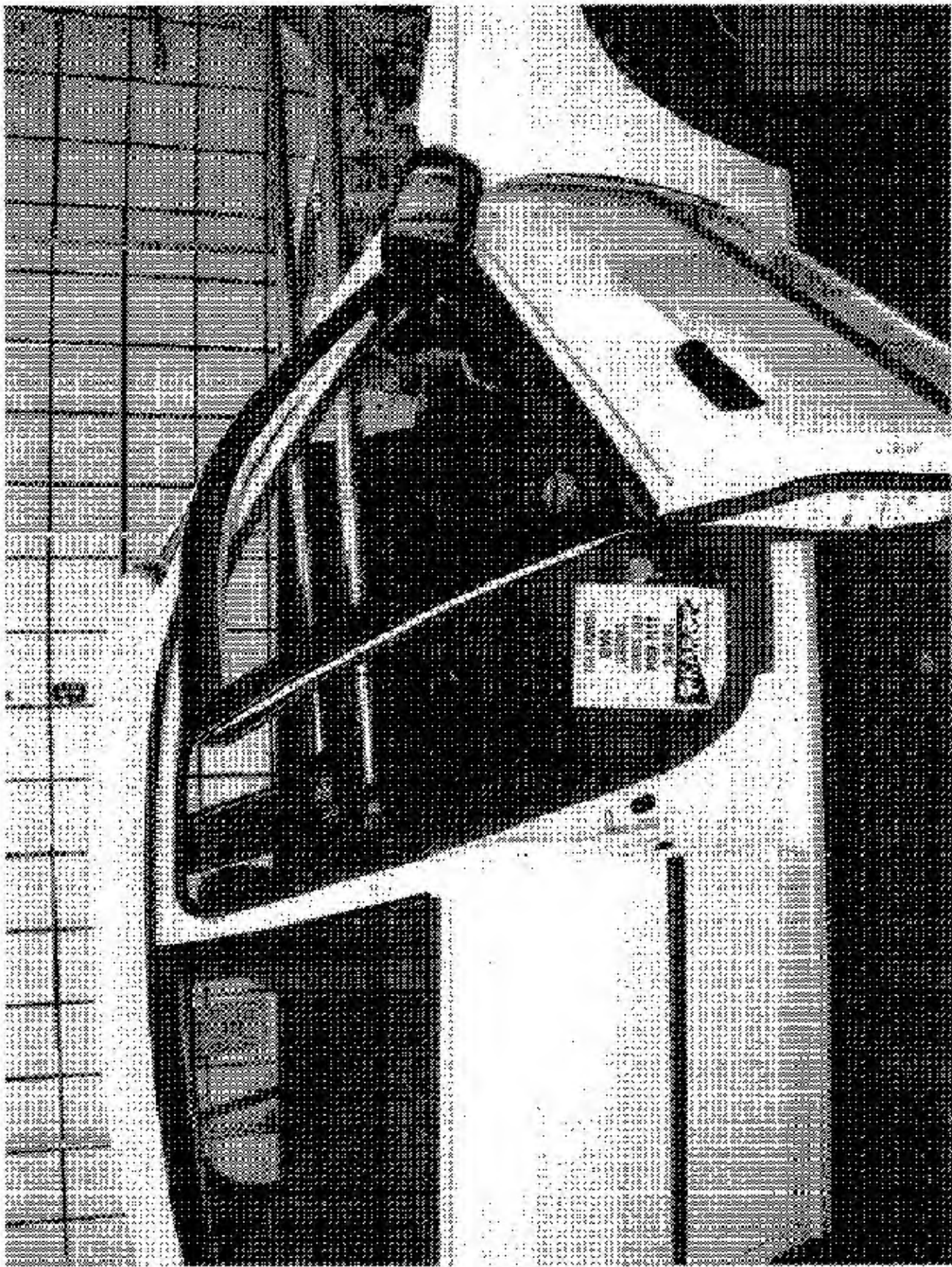


Figure A-14: Aft Moment on Seat Frame and Adjusters, Passenger's Side, Post-Test



Figure A-15: Alt Moment on Seat Frame and Adjusters, Driver's Side Rear, Pre-Test



Figure A-16. Air Moment on Seat Frame and Adjusters, Driver's Side Rear, Post-Test



Figure A-17: Alt Moment on Seat Frame and Adjusters, Passenger's Side Rear, Pre-Test

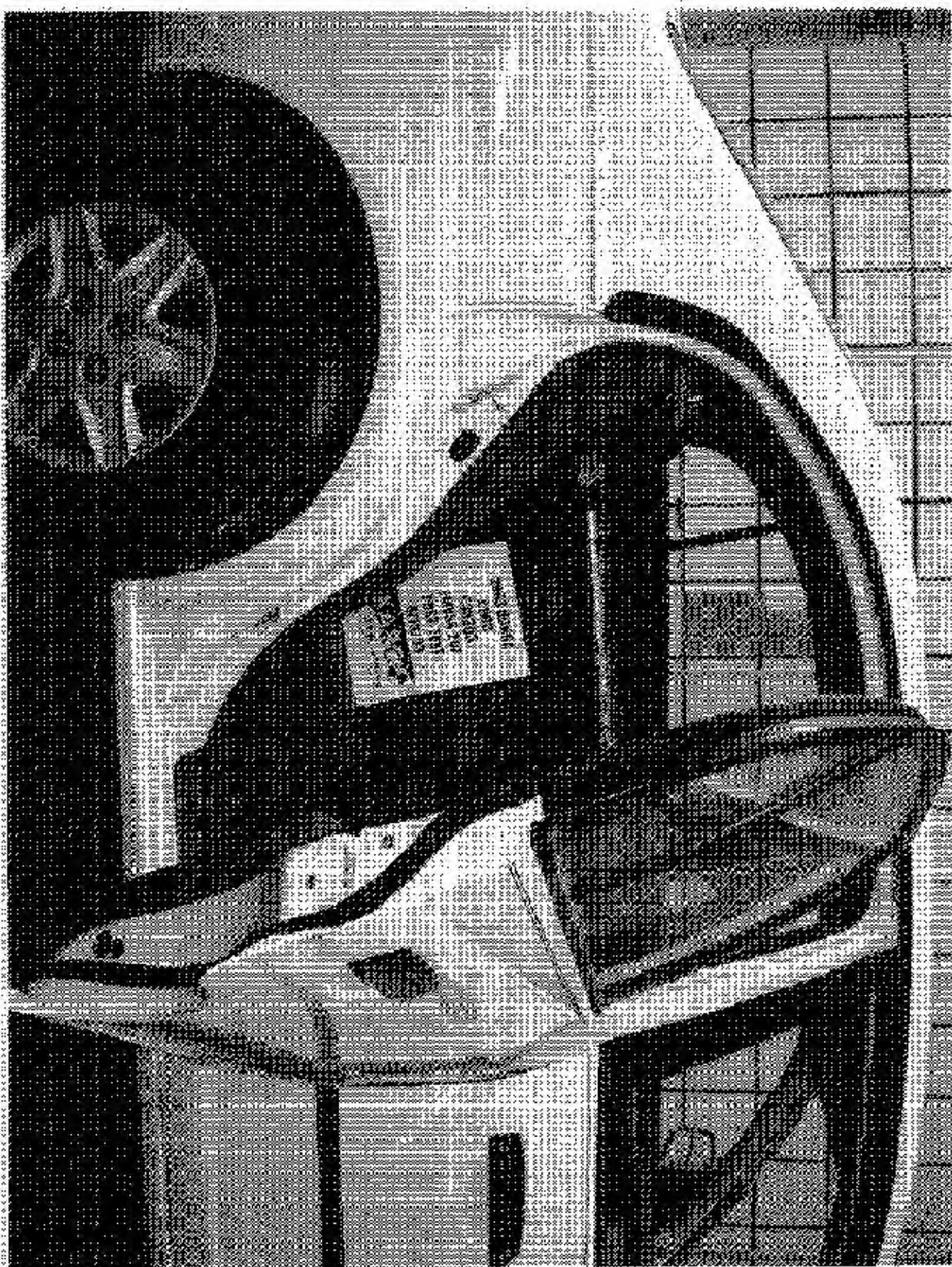


Figure A-18. Air Moment on Seat Frame and Adjusters, Passenger's Side Rear, Pre-Test

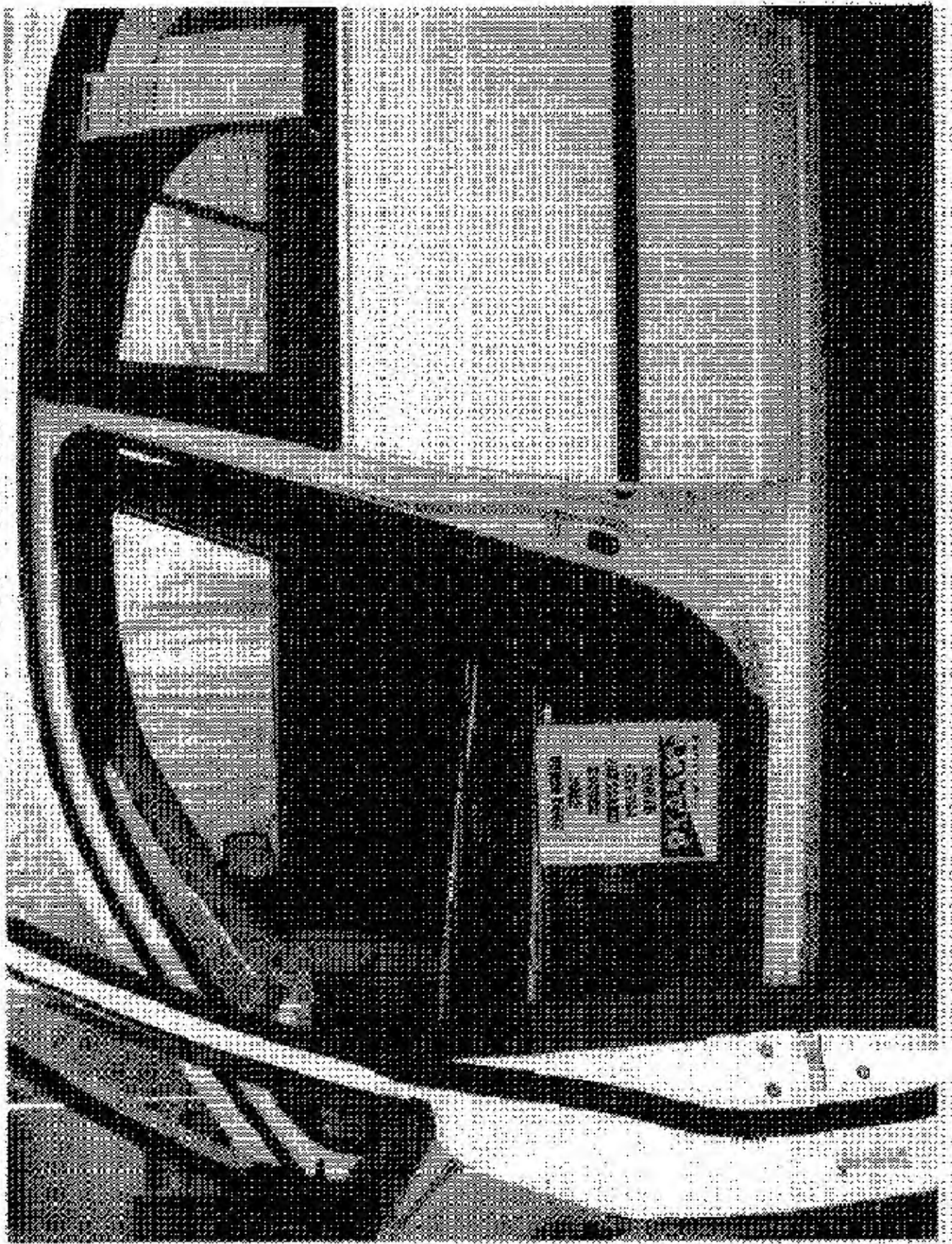


Figure A-19: Air Load on Seat Frame and Adjusters, Driver's Side, Pre-Test

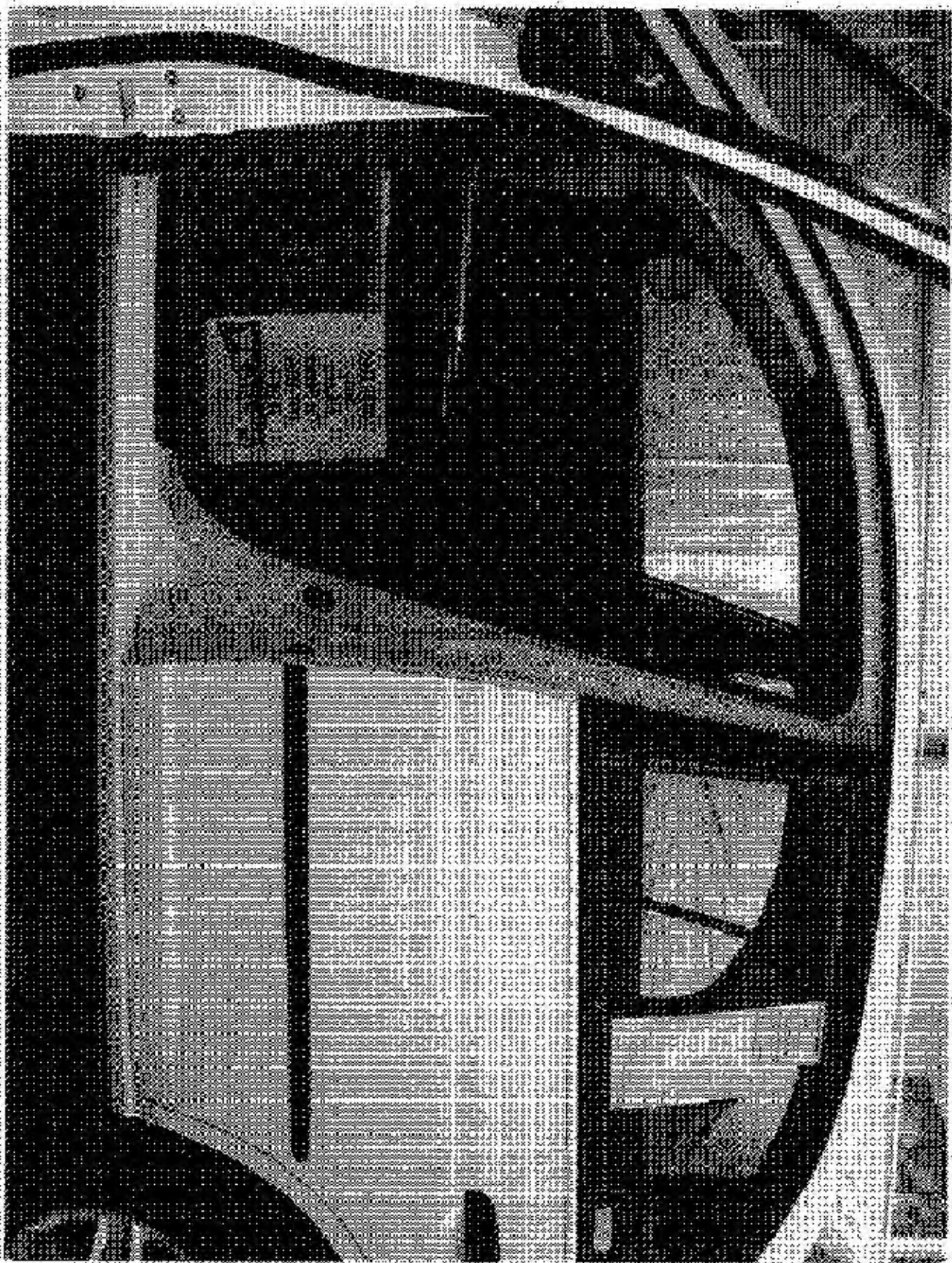


Figure A-20: Air Load on Seat Frame and Adjusters, Driver's Side, Post-Test

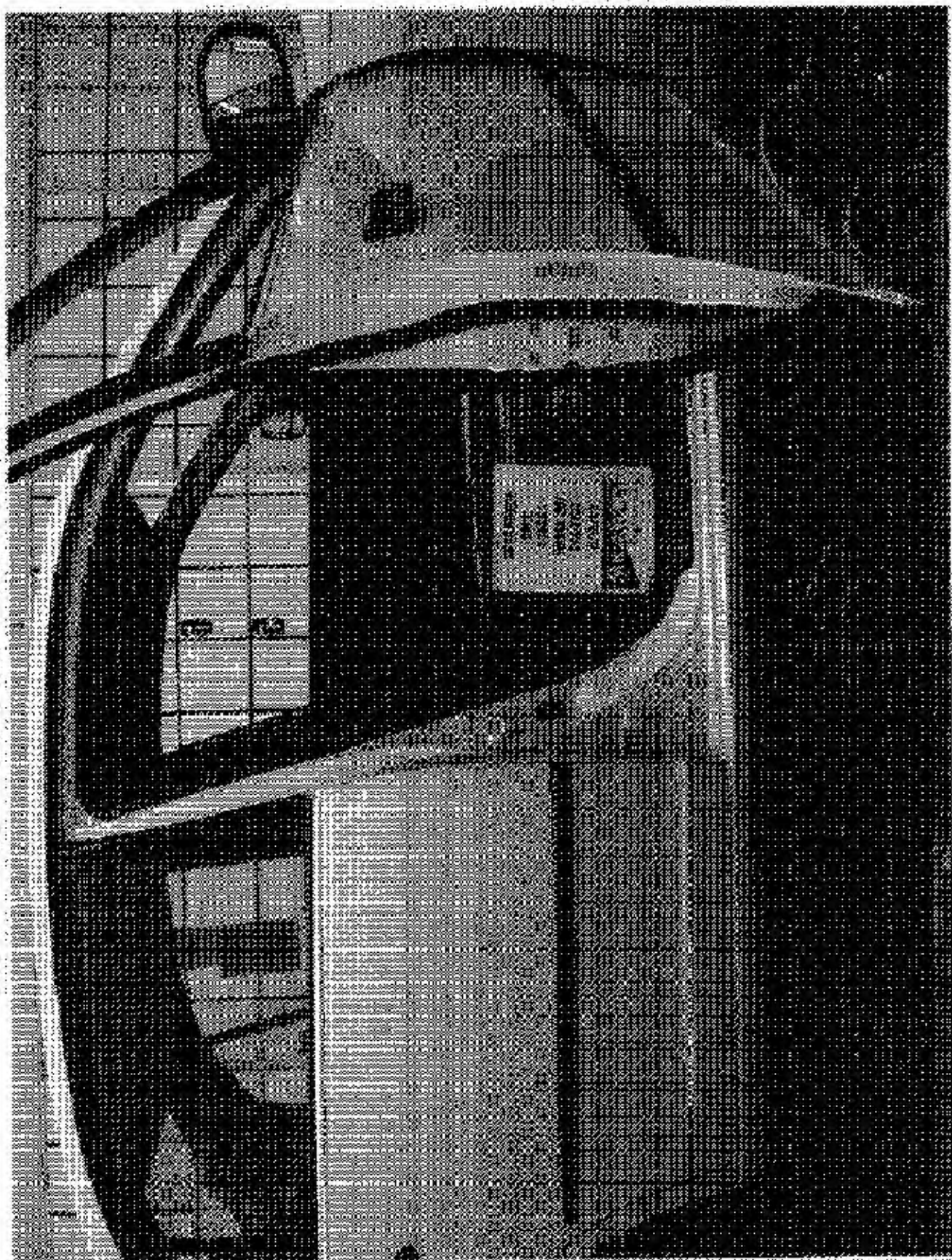


Figure A-21: Aft Load on Seal Frame and Adjusters, Passenger's Side, Pre-Test

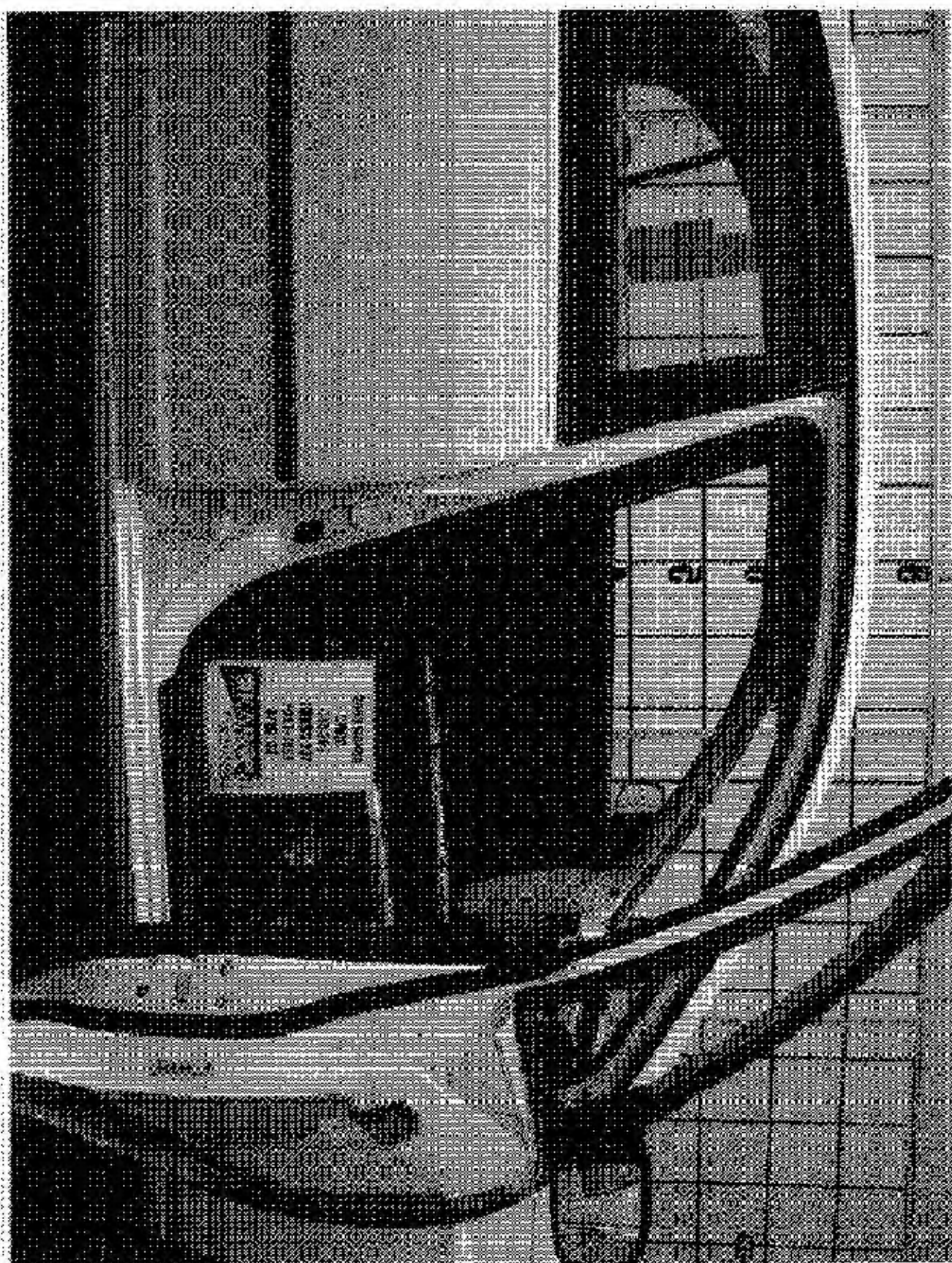


Figure A-22: All Load on Seat Frame and Adjusters, Passenger's Side, Post-Test

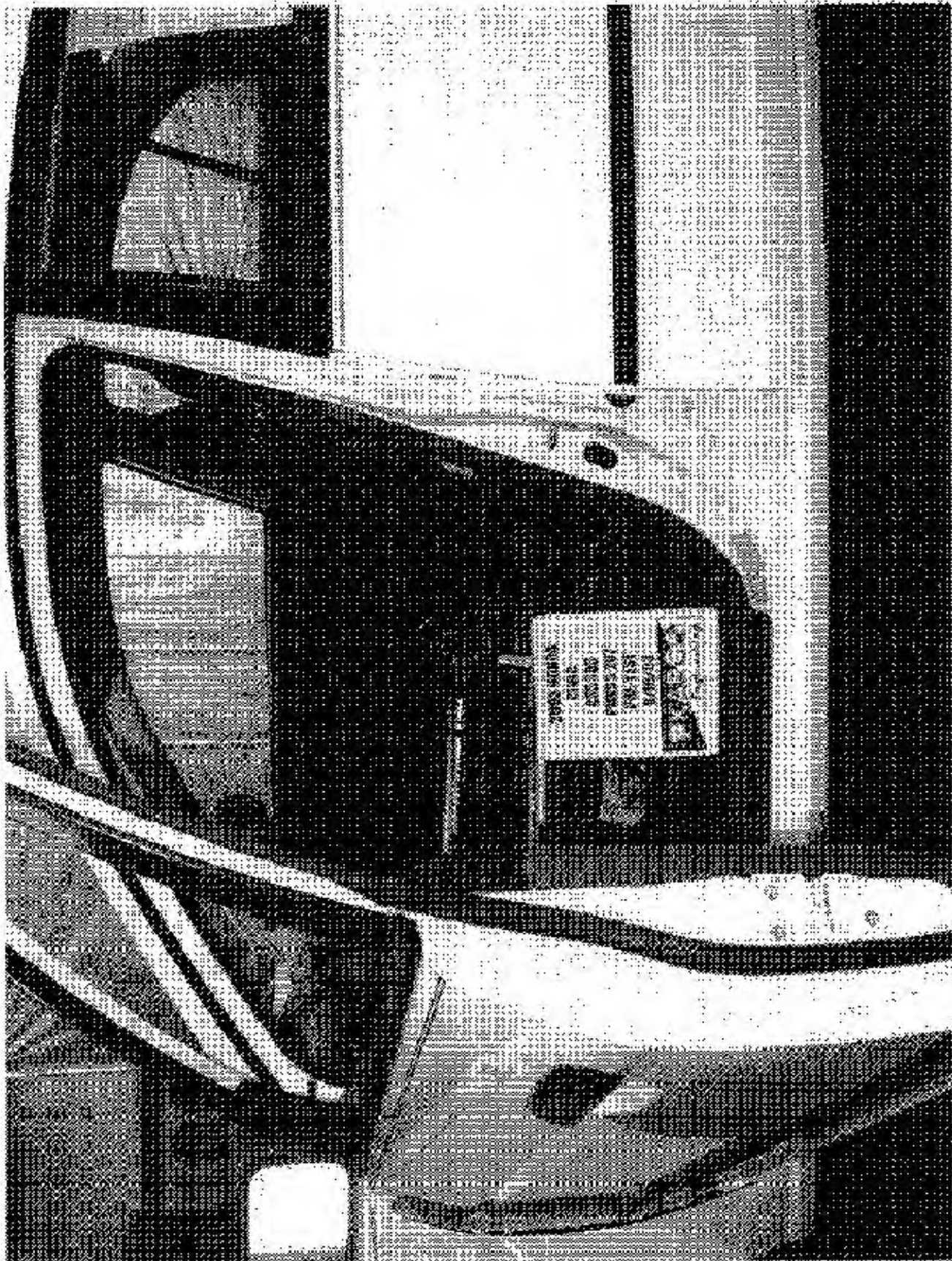


Figure A-23: Forward Load on Seat Frame and Adjusters, Driver's Side, Pre-Test

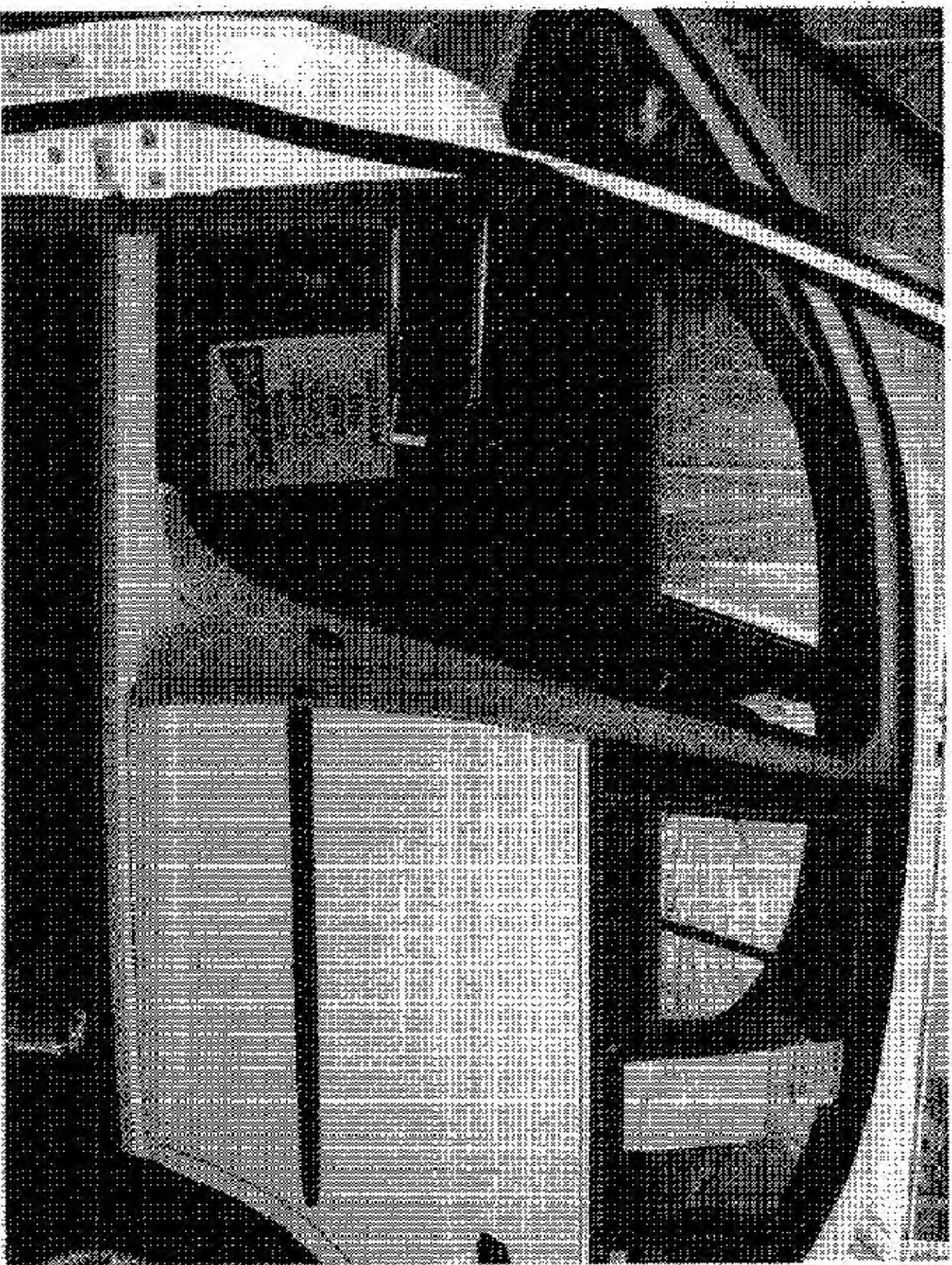


Figure A-24: Forward Load on Seat Frame and Adjusters, Driver's Side, Post-Test

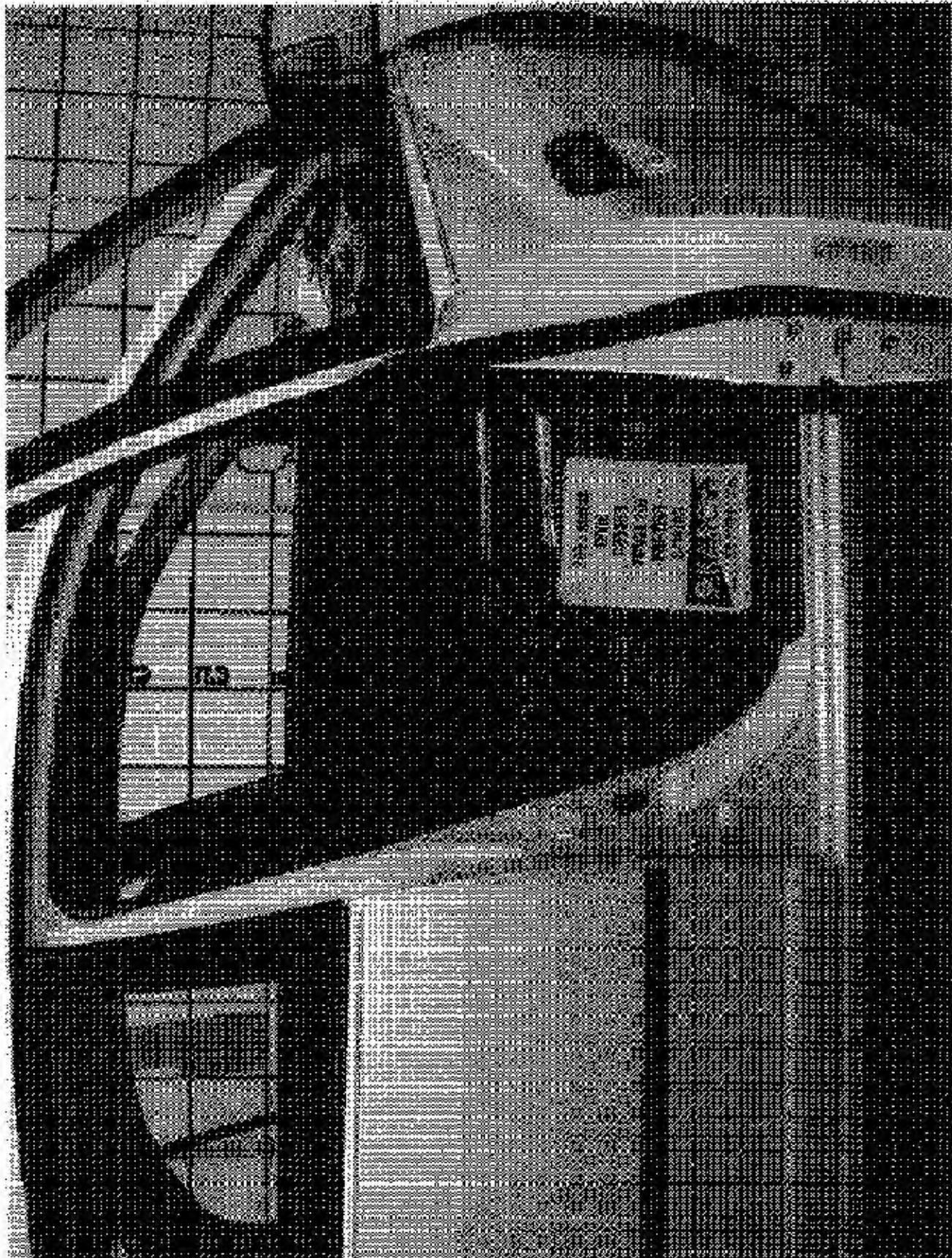


Figure A-25: Forward Load on Seat Frame and Adjusters, Passenger's Side, Pre-Test

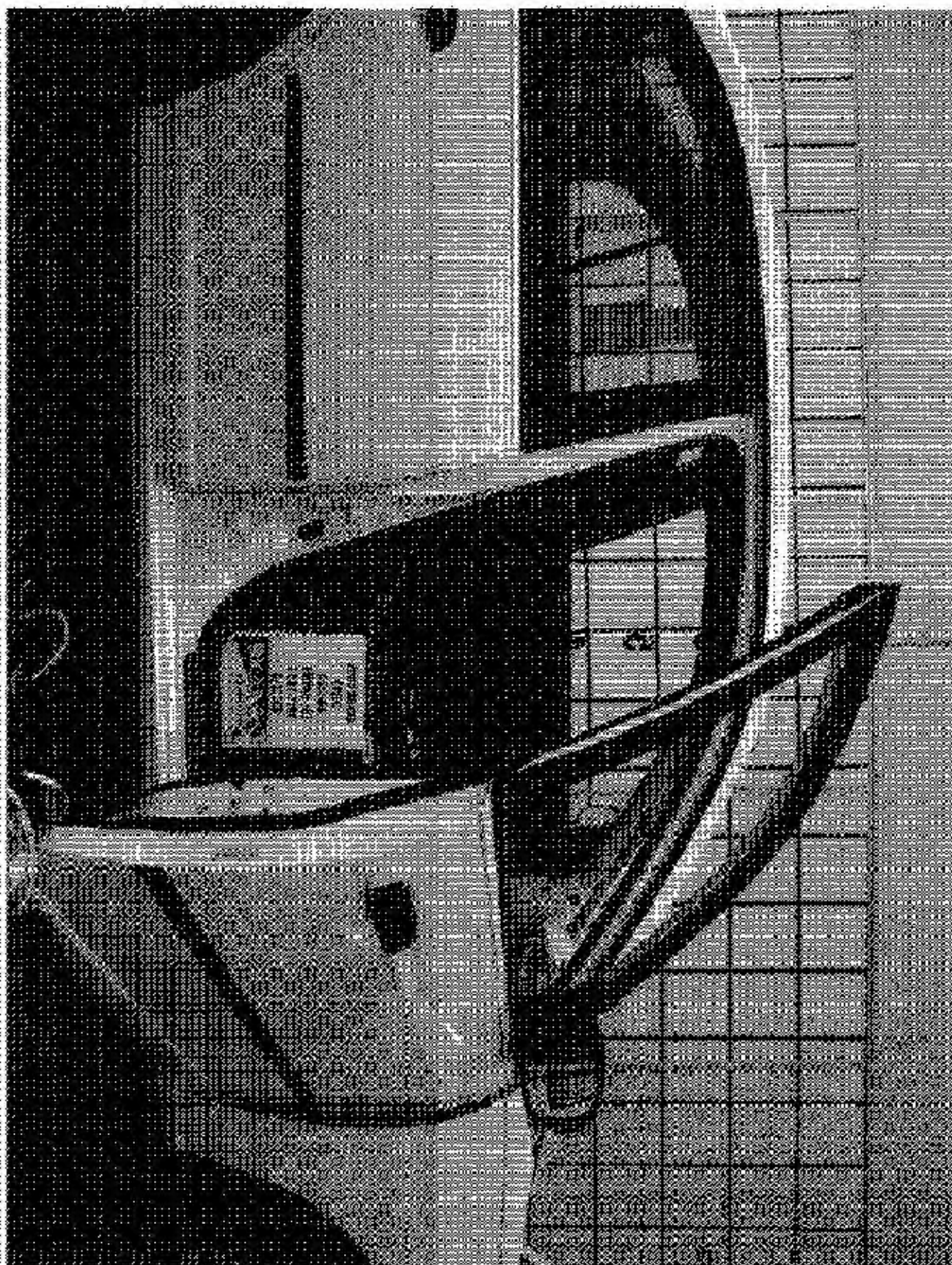


Figure A-26: Forward Load on Seat Frame and Adjusters, Passenger's Side, Post-Test



Figure A-27: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side, Pre-Test

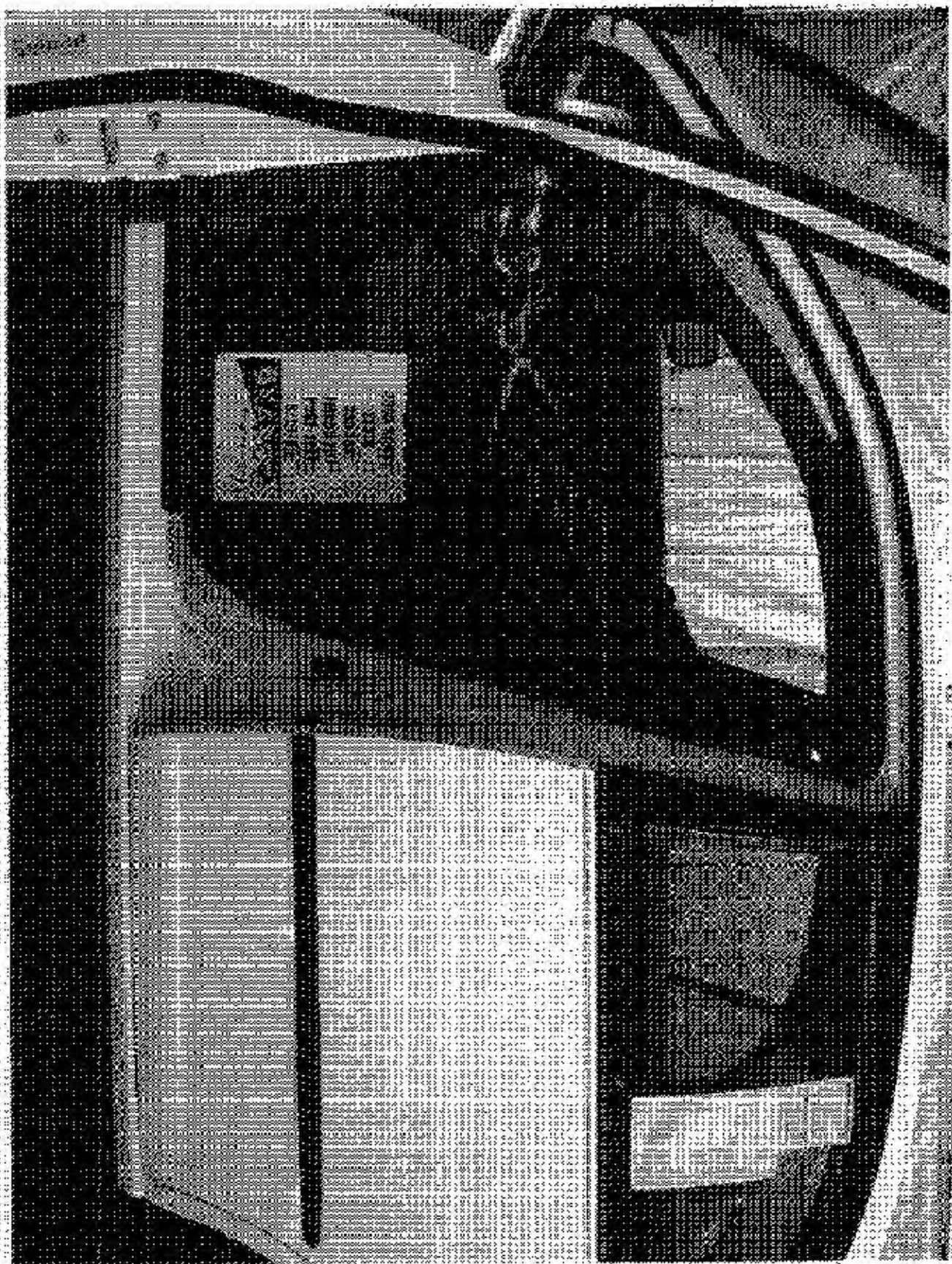


Figure A-28: 2017/210 Forward Load on Seat Frame and Adjusters, Driver's Side, Post-Test



Figure A-29: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side, Pre-Test



Figure A-30: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side, Post-Test

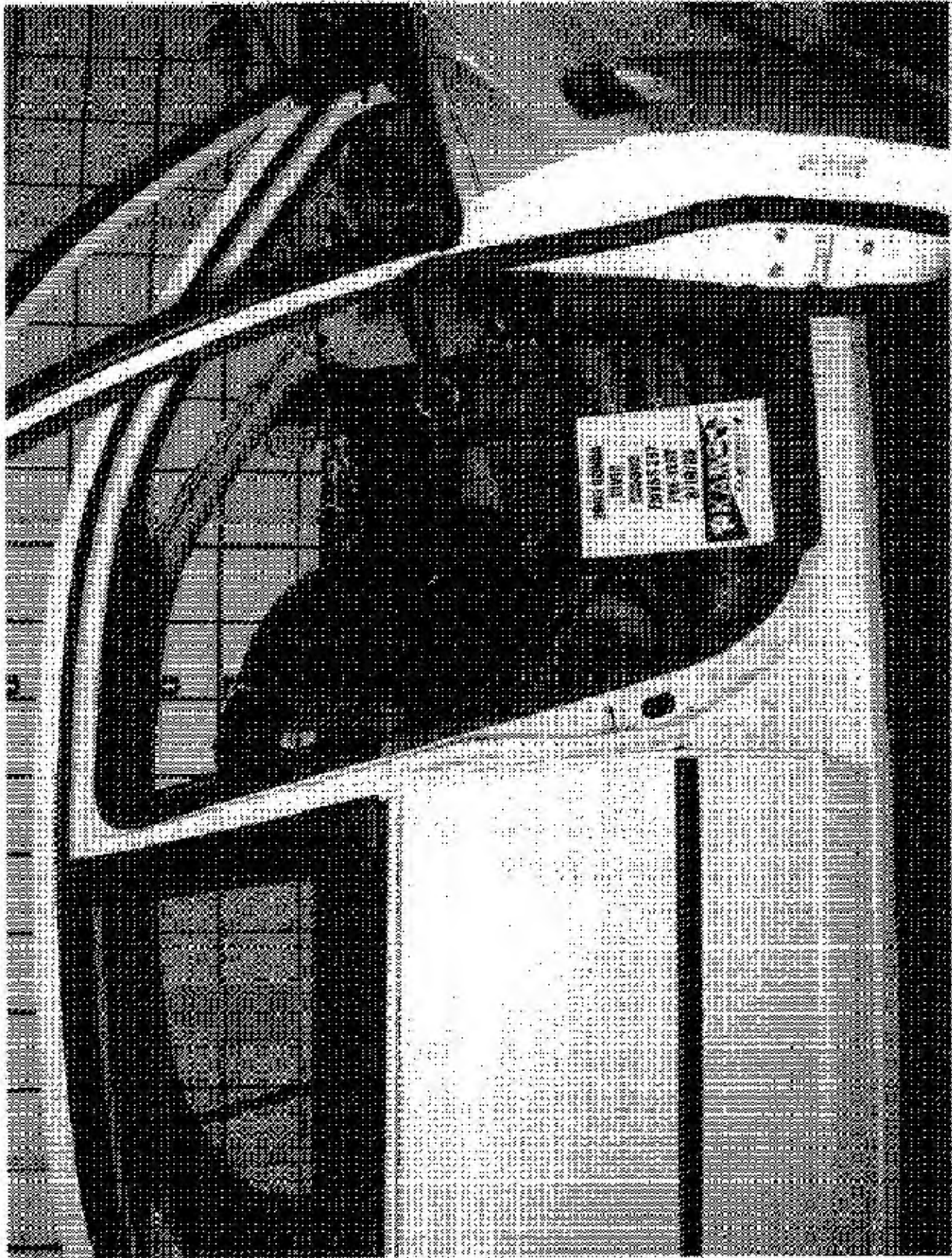


Figure A-31: 207/210 Forward Load on Seat Frame and Adjusters, Passenger's Side, Pre-Test



Figure A-32: 207/210 Forward Load on Seat Frame and Adjusters, Passenger's Side, Post-Test



Figure A-33: 207/2'10 Forward Load on Seat Frame and Adjusters, Passenger's Side, Pre-Test



Figure A-34: 207/210 Forward Load on Seat Frame and Adjusters, Passenger's Side, Post-Test



Figure A-35: All Load on Seat Frame and Adjusters, Driver's Side Rear, Pre-Test

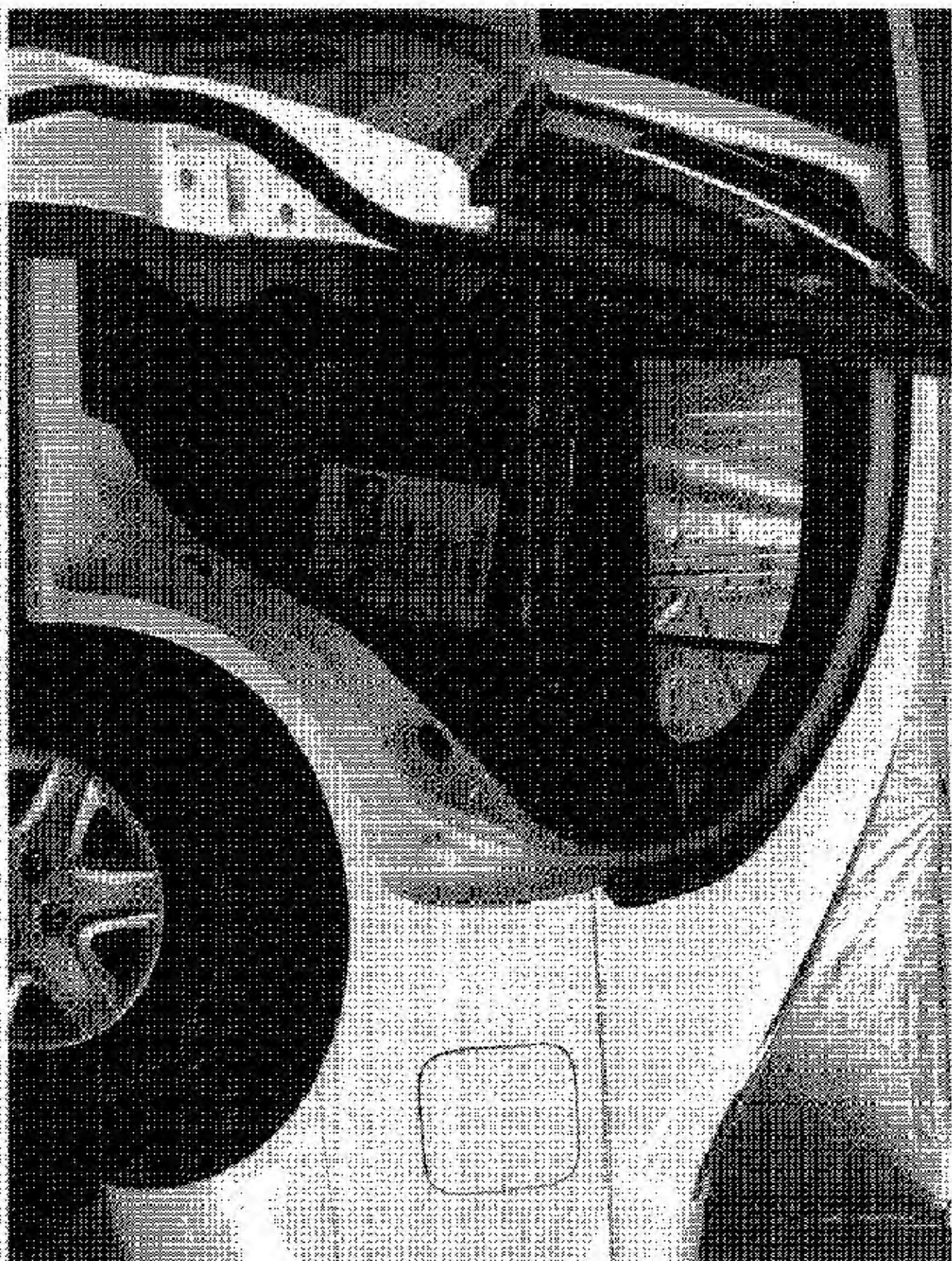


Figure A-36: All Load on Seat Frame and Adjusters, Driver's Side Rear, Post-Test

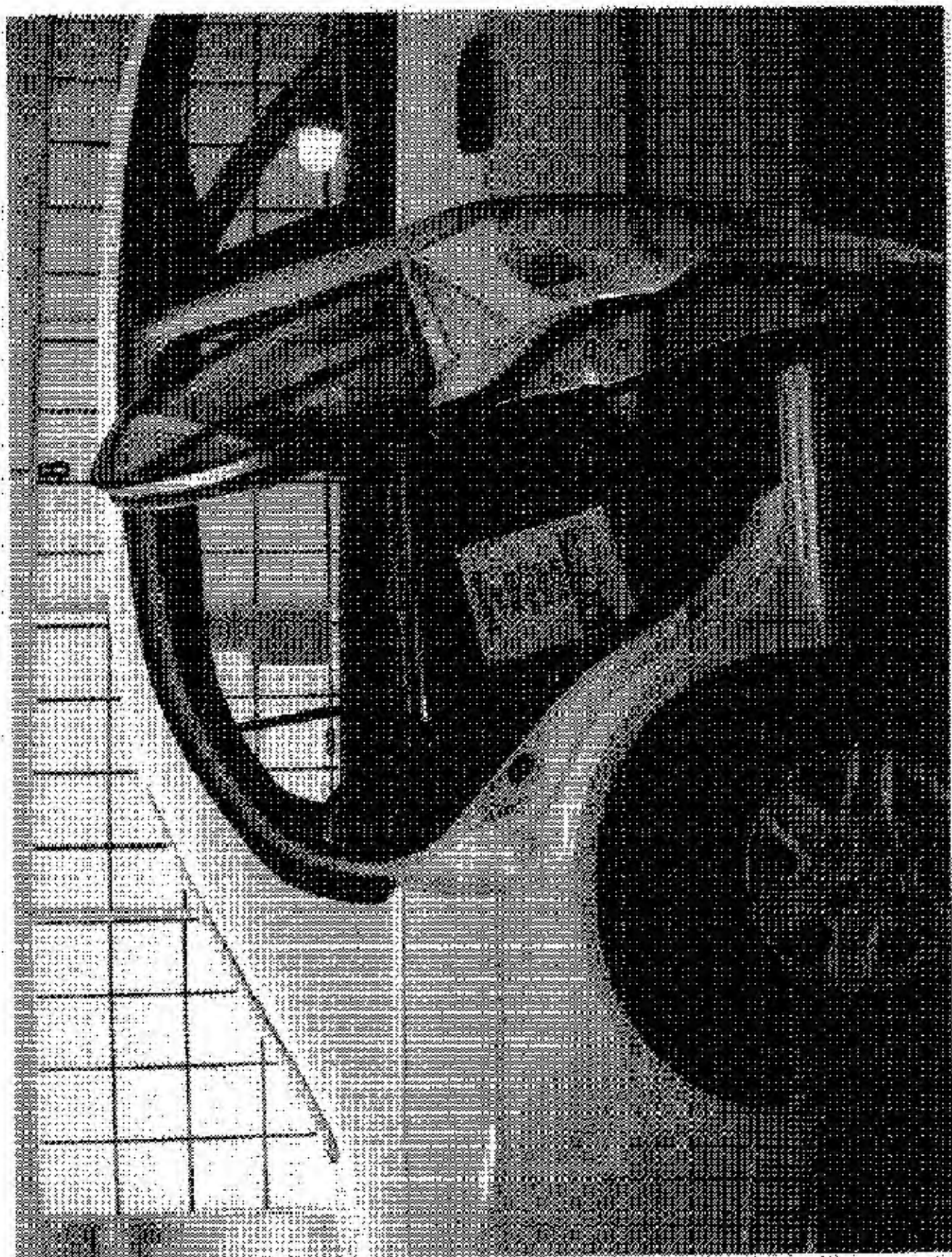


Figure A-37: Air Load on Seat Frame and Adjusters, Passenger's Side Rear, Pre-Test

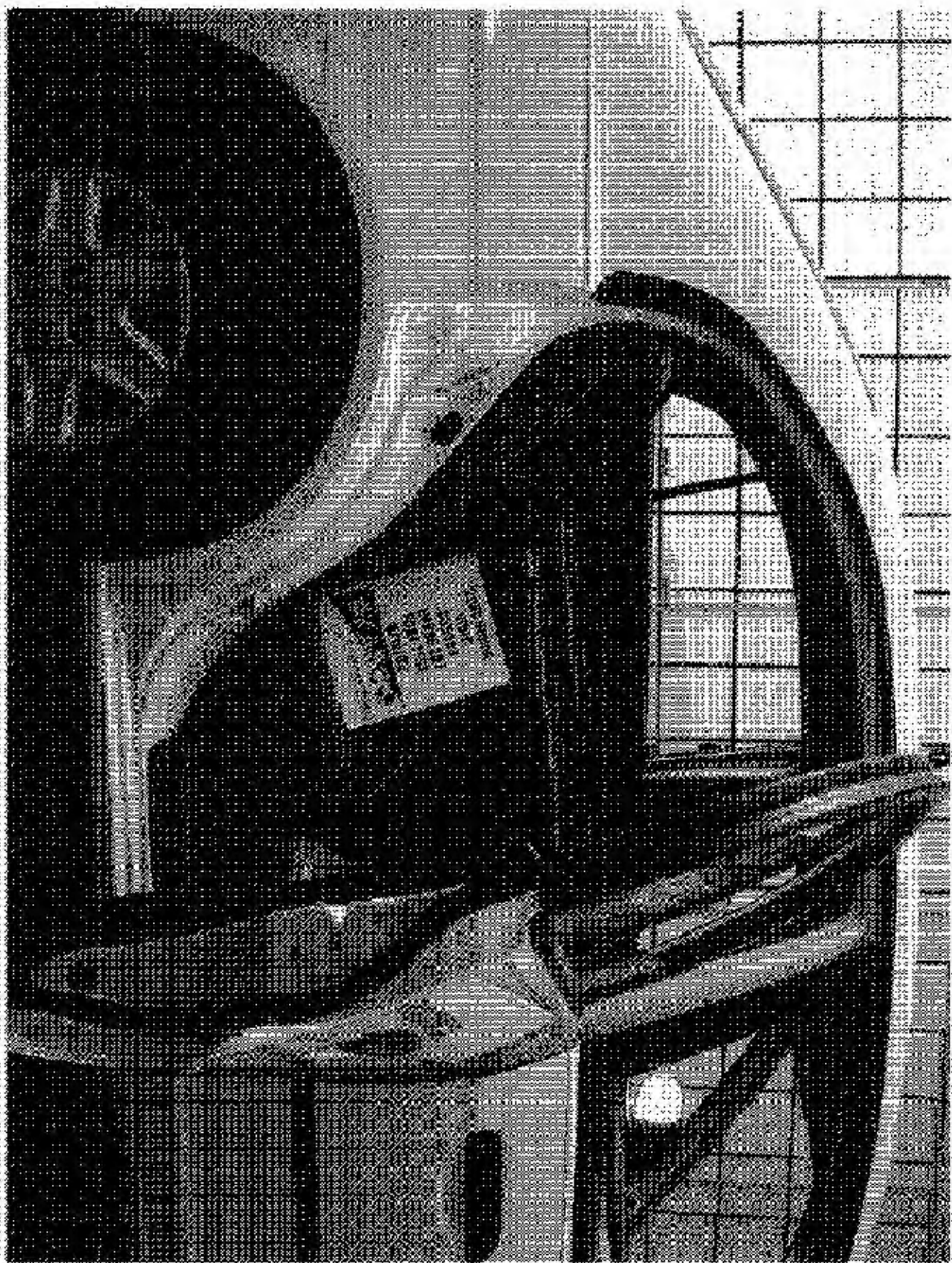


Figure A-38: Alt Load on Seat Frame and Adjusters, Passenger's Side Rear, Post-Test

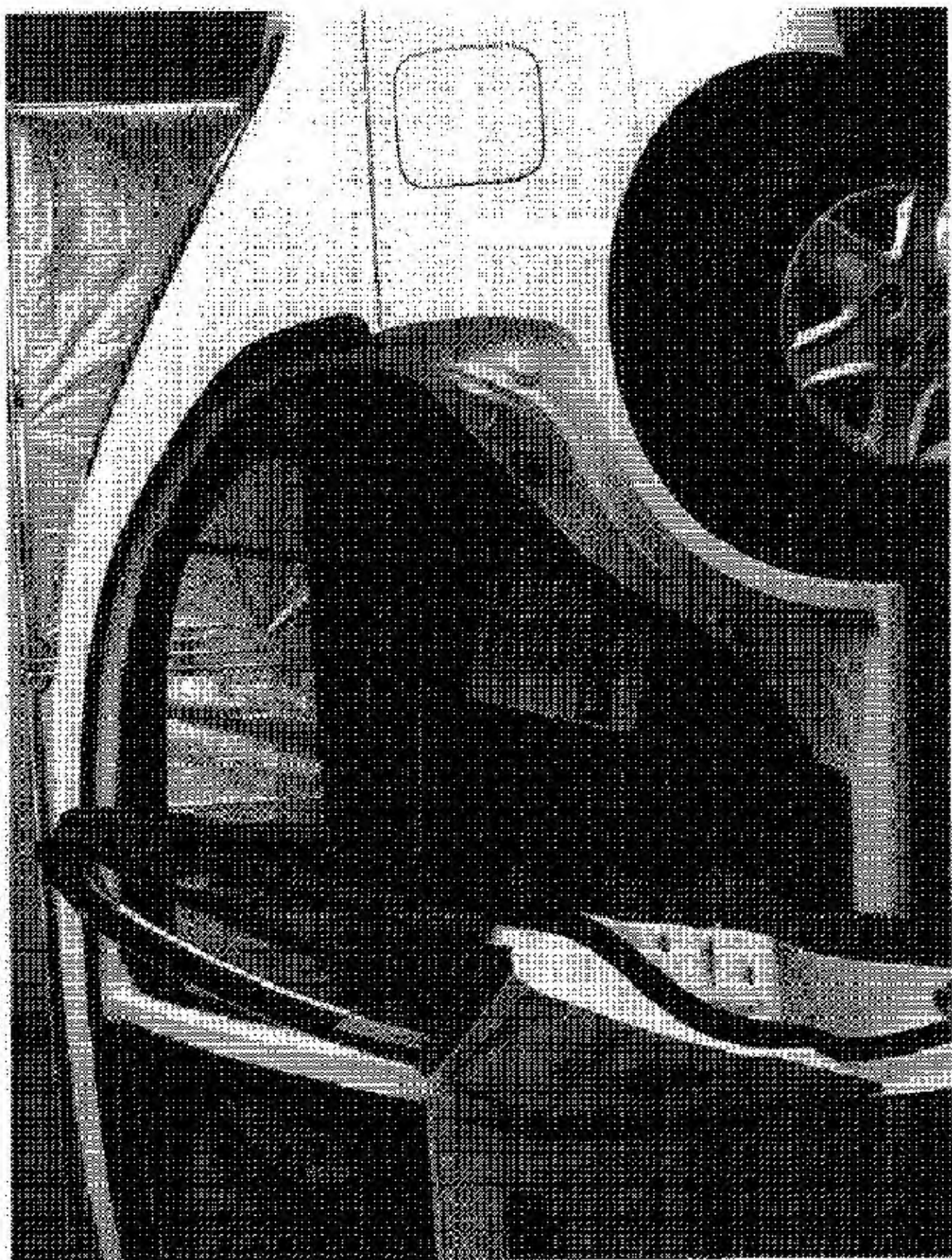


Figure A-39: Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Pre-Test

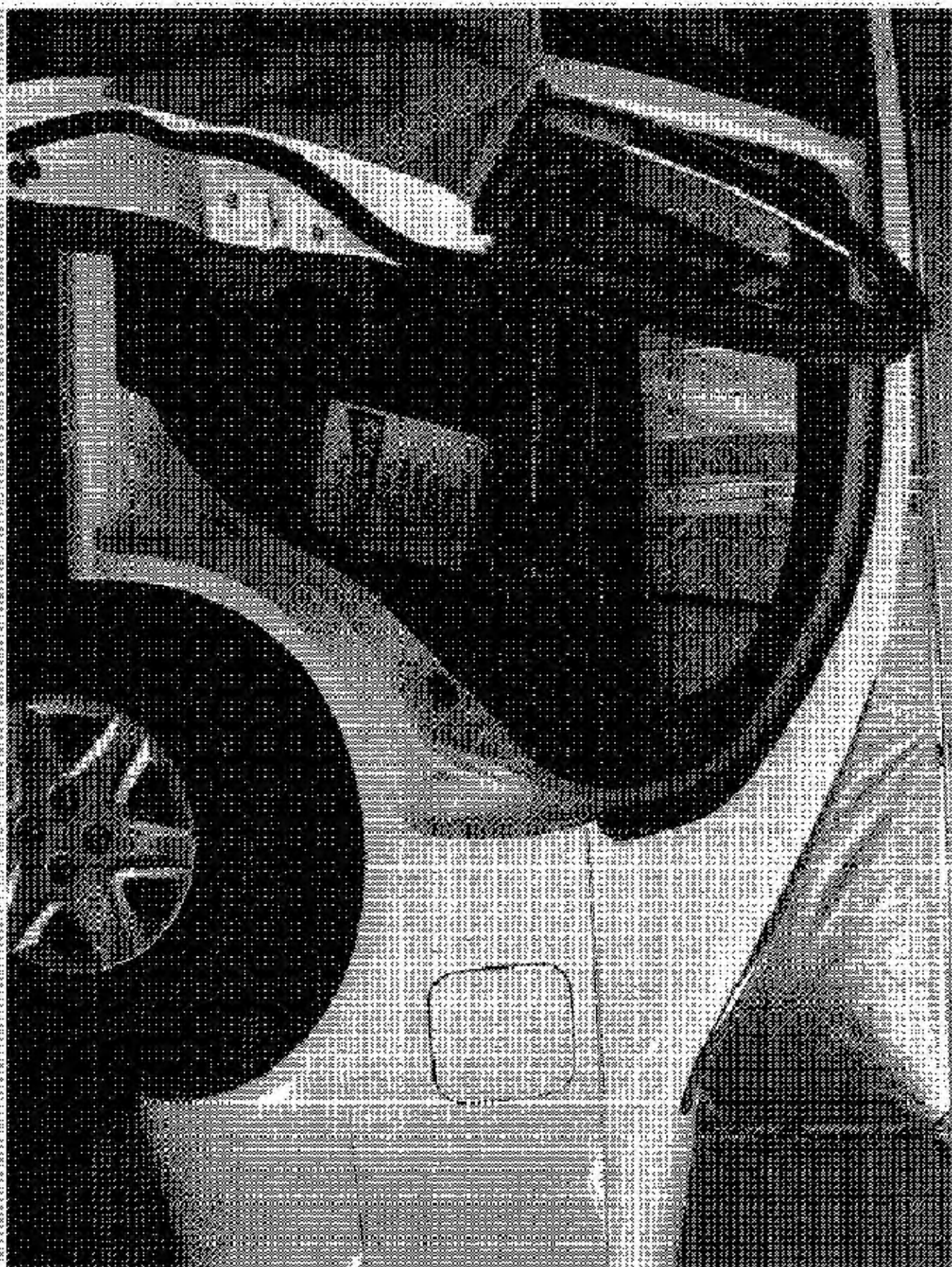


Figure A-40: Forward Load on Seal Frame and Adjusters, Driver's Side Rear, Post-Test

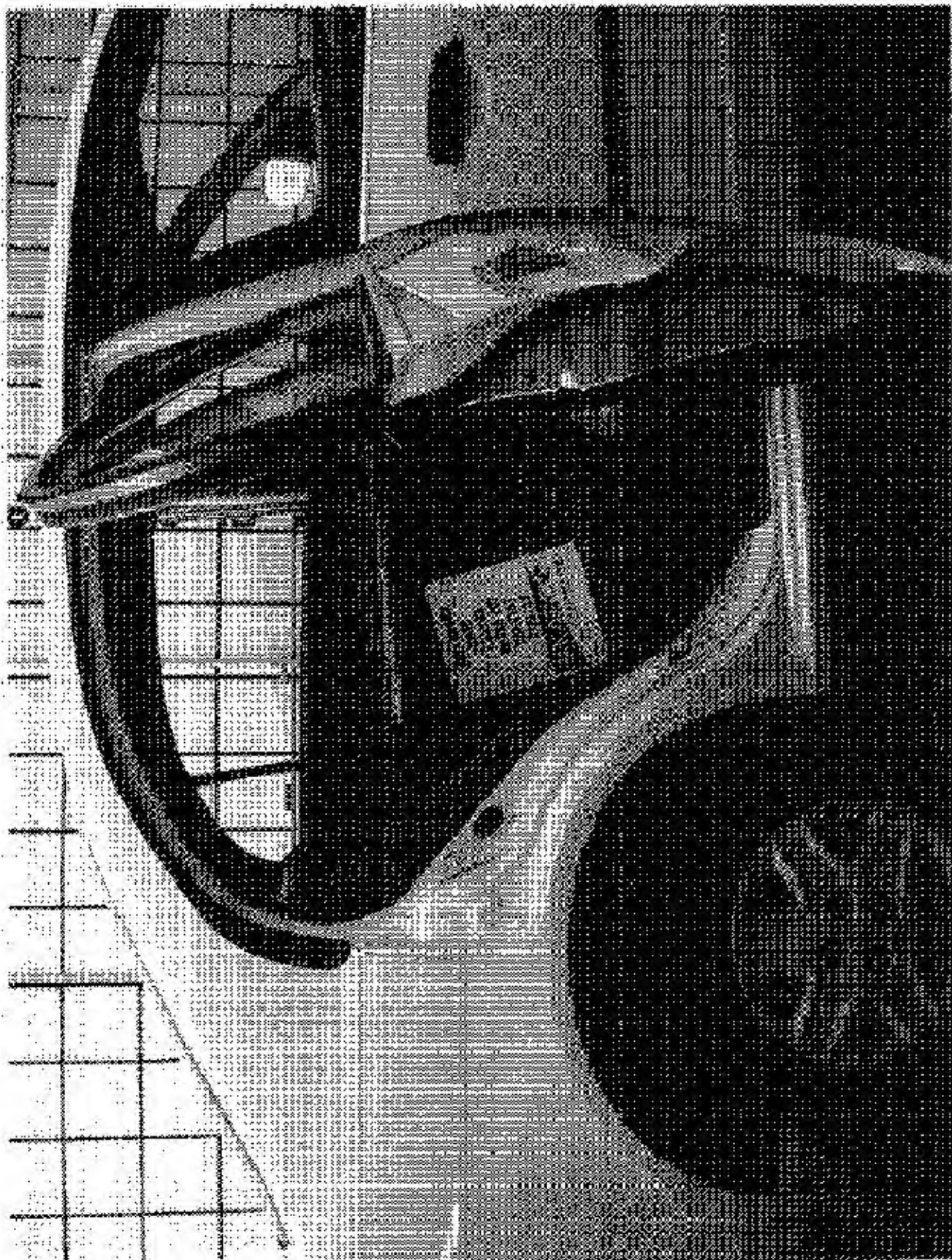


Figure A-4.1: Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Pre-Test

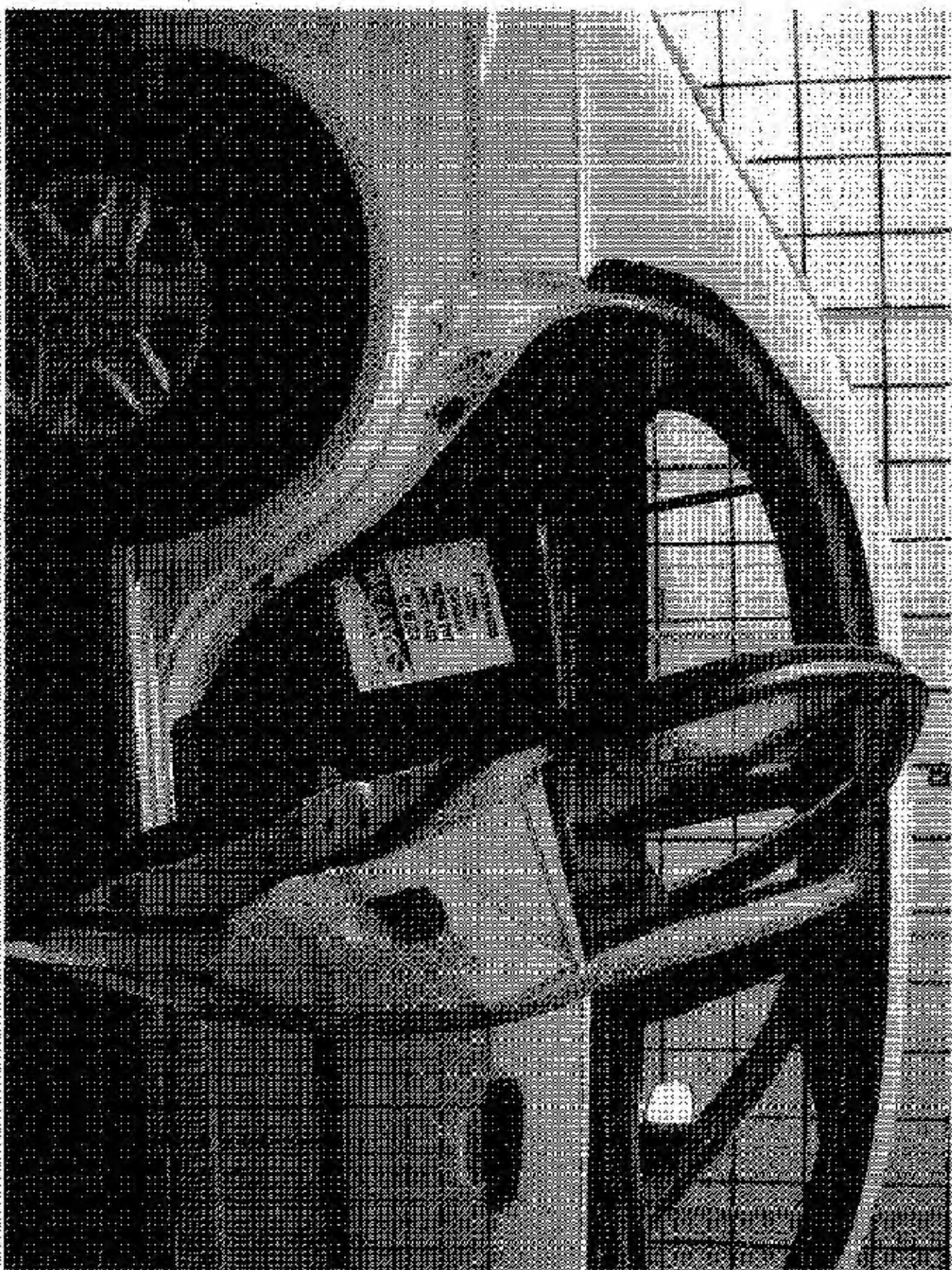


Figure A-42: Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Post-Test

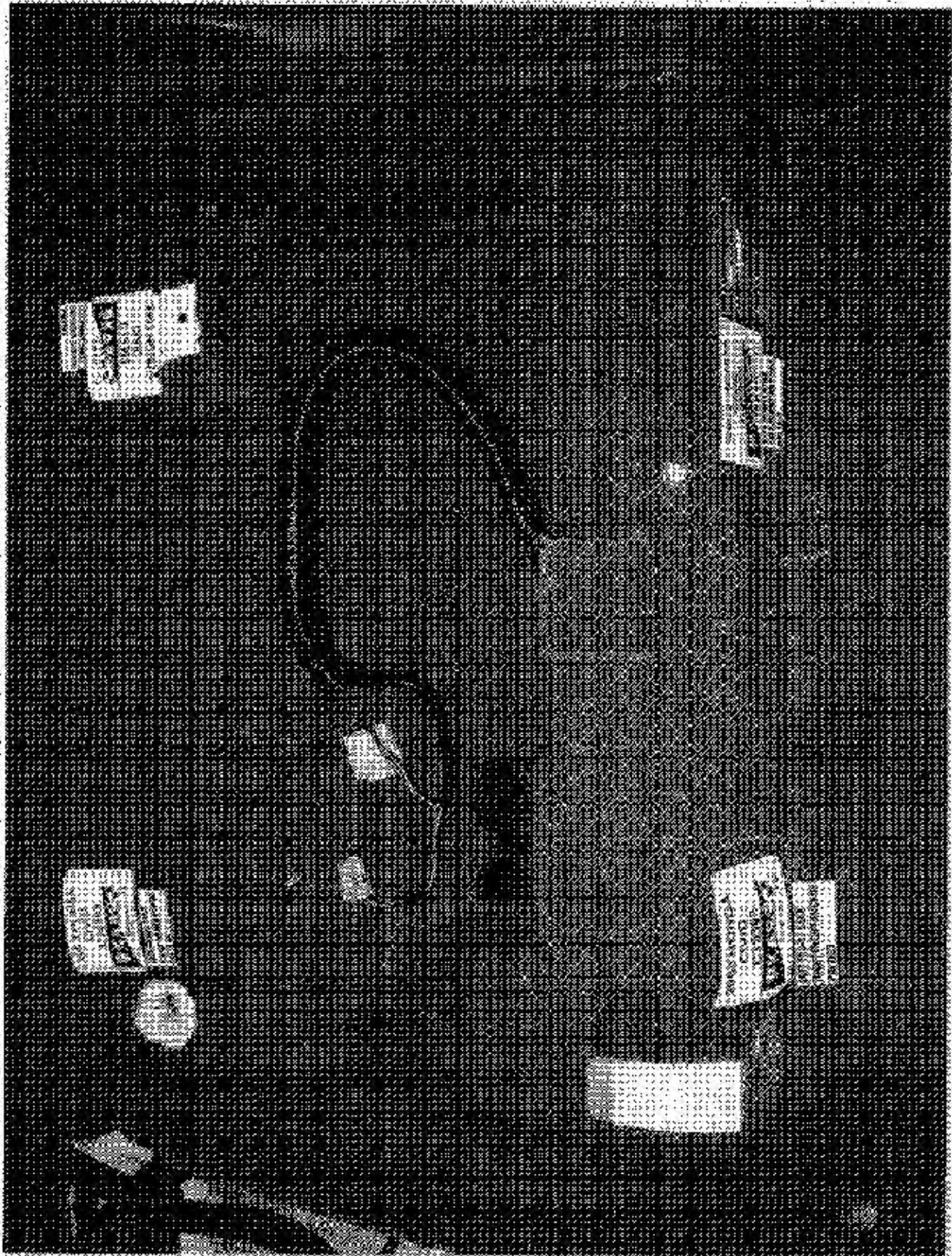


Figure A-43: Floor Pan Anchors, Left Front Seat Overall, Pre-Test

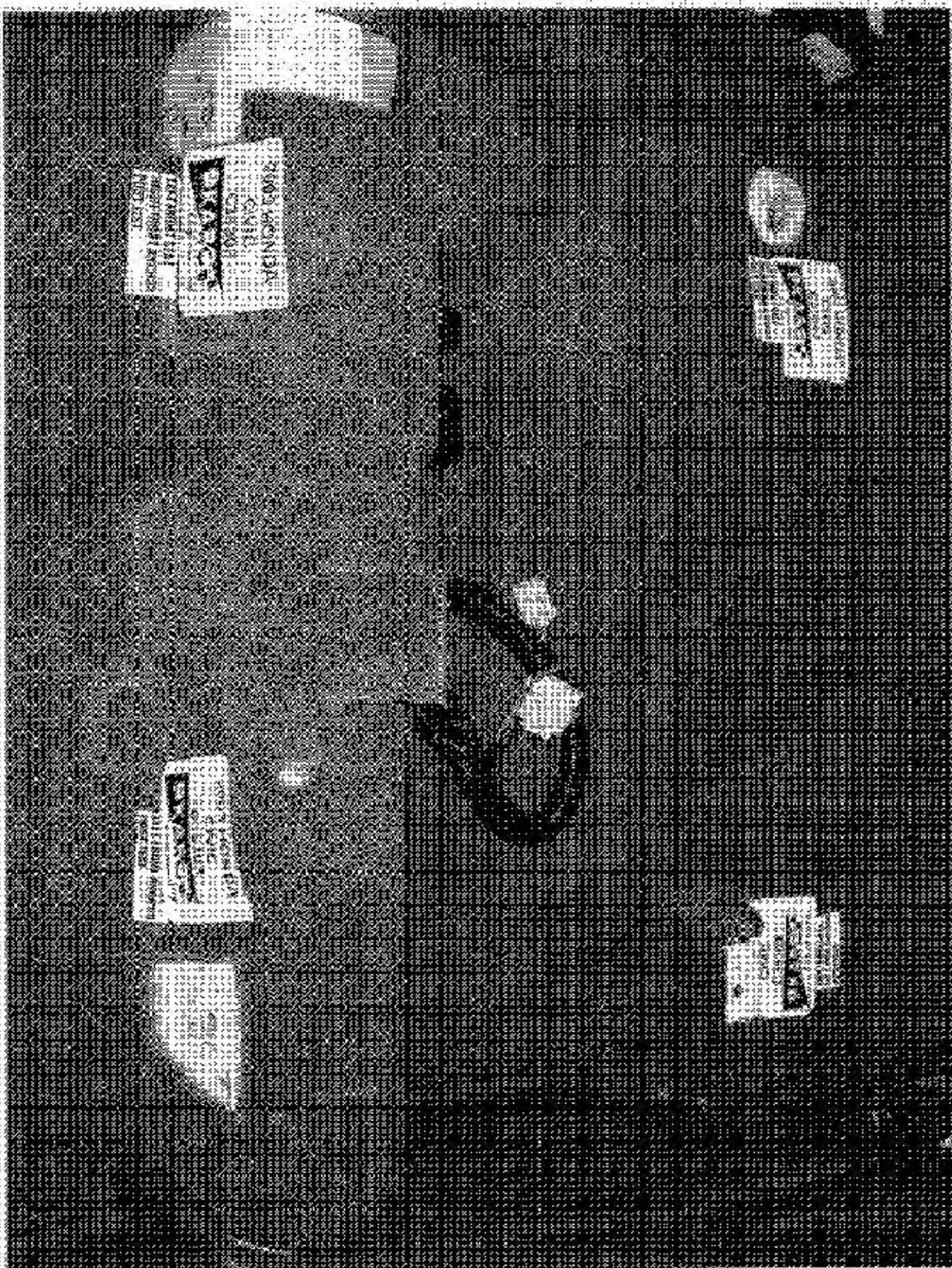


Figure A-44: Floor Pan Anchors, Left Front Seat Overall, Post-Test

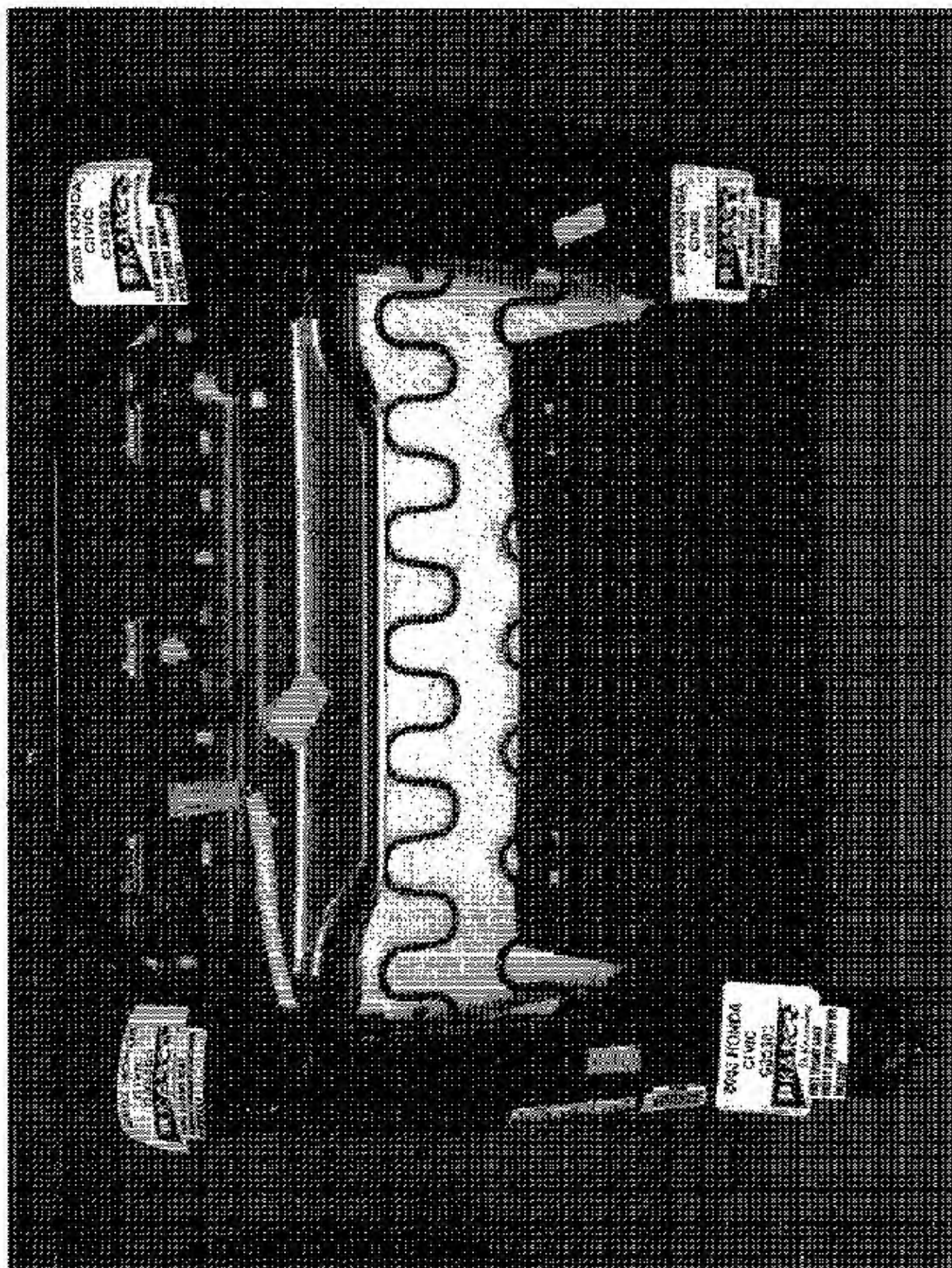


Figure A-45: Seat Anchors, Left Front Seat Overall, Pre-Test

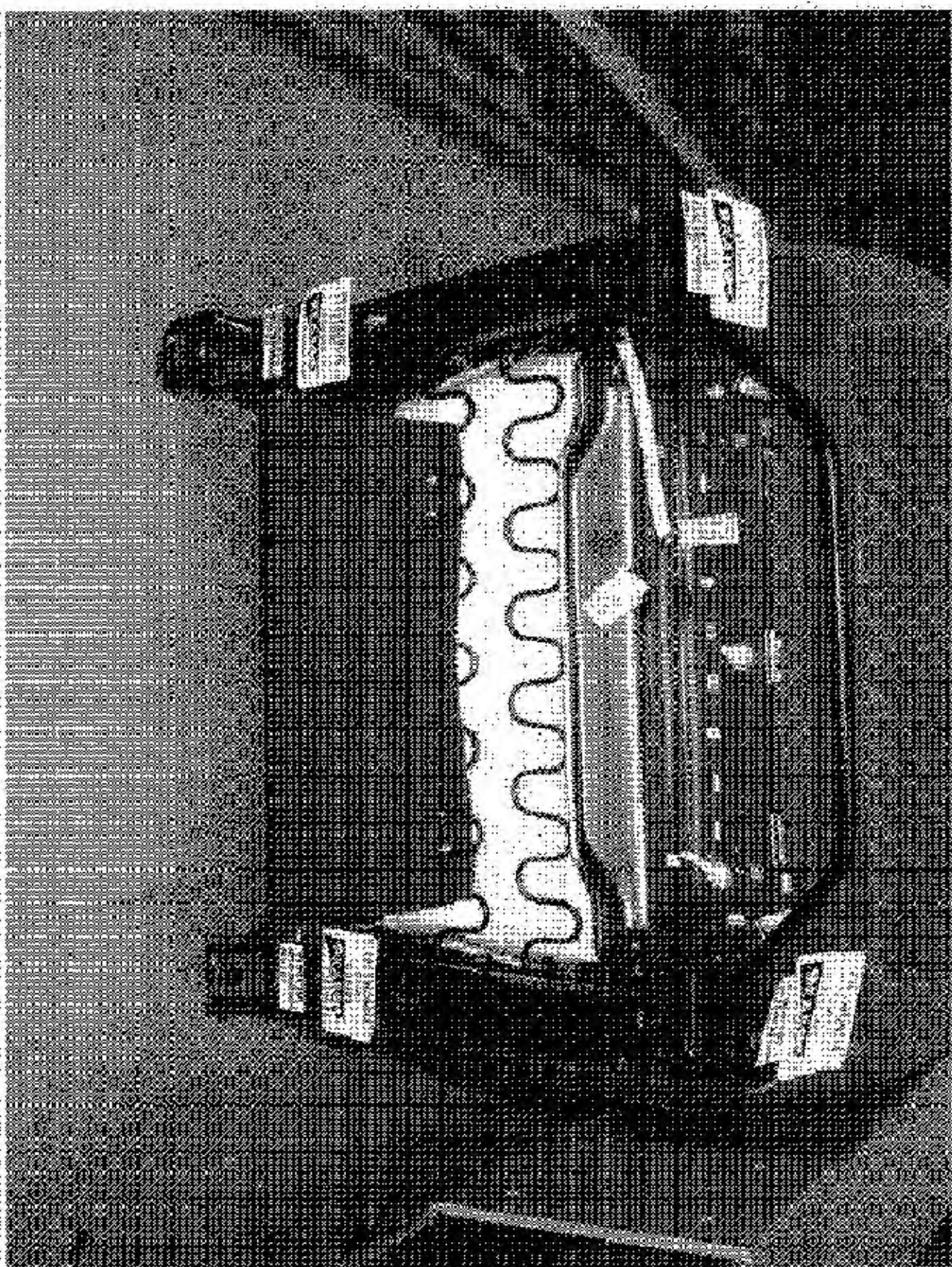


Figure A-46: Seat Anchors, Left Front Seat Overall, Post-Test

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LEFT FRONT SEAT
LEFT FRONT ANCHOR
PRETEST

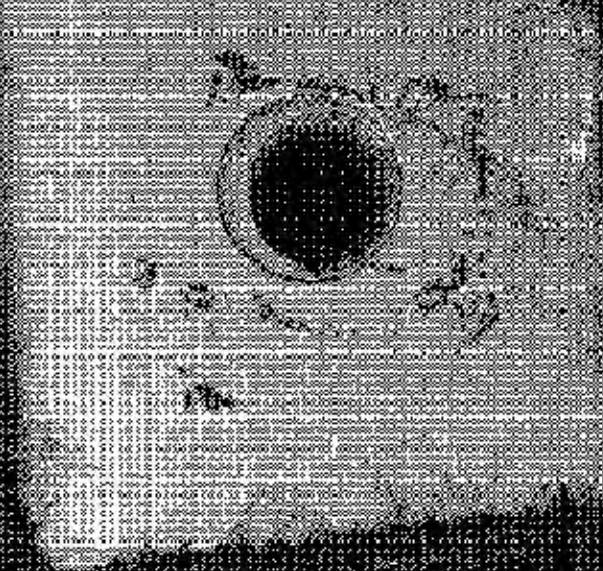


Figure A-47: Floor Pan Anchor, Left Front Seat, Pre-Test



Figure A-48: Floor Pan Anchor, Left Front Seat, Post-Test

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EXCARC

Engineering

LEFT FRONT SEAT

LEFT FRONT ANCHOR

PRETEST



Figure A-49: Seat Anchor, Left Front Seat, Pre-Test

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PKARC

Engineering

LEFT FRONT SEAT

LEFT FRONT ANCHOR

POST TEST

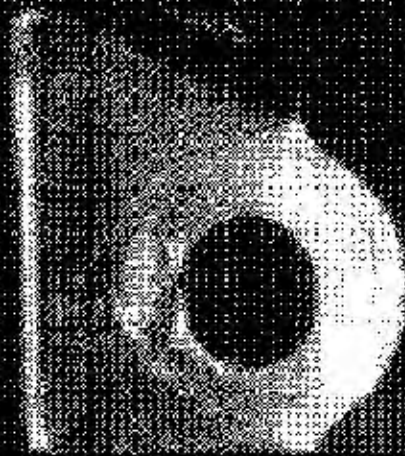


Figure A-50: Seat Anchor, Left Front Seat, Post-Test

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CLARCO

Engineering

LEFT FRONT SEAT

RIGHT FRONT ANCHOR

PHEIEST

Figure A-51: Floor Pan Anchor, Left Front Seat, Pie-Test

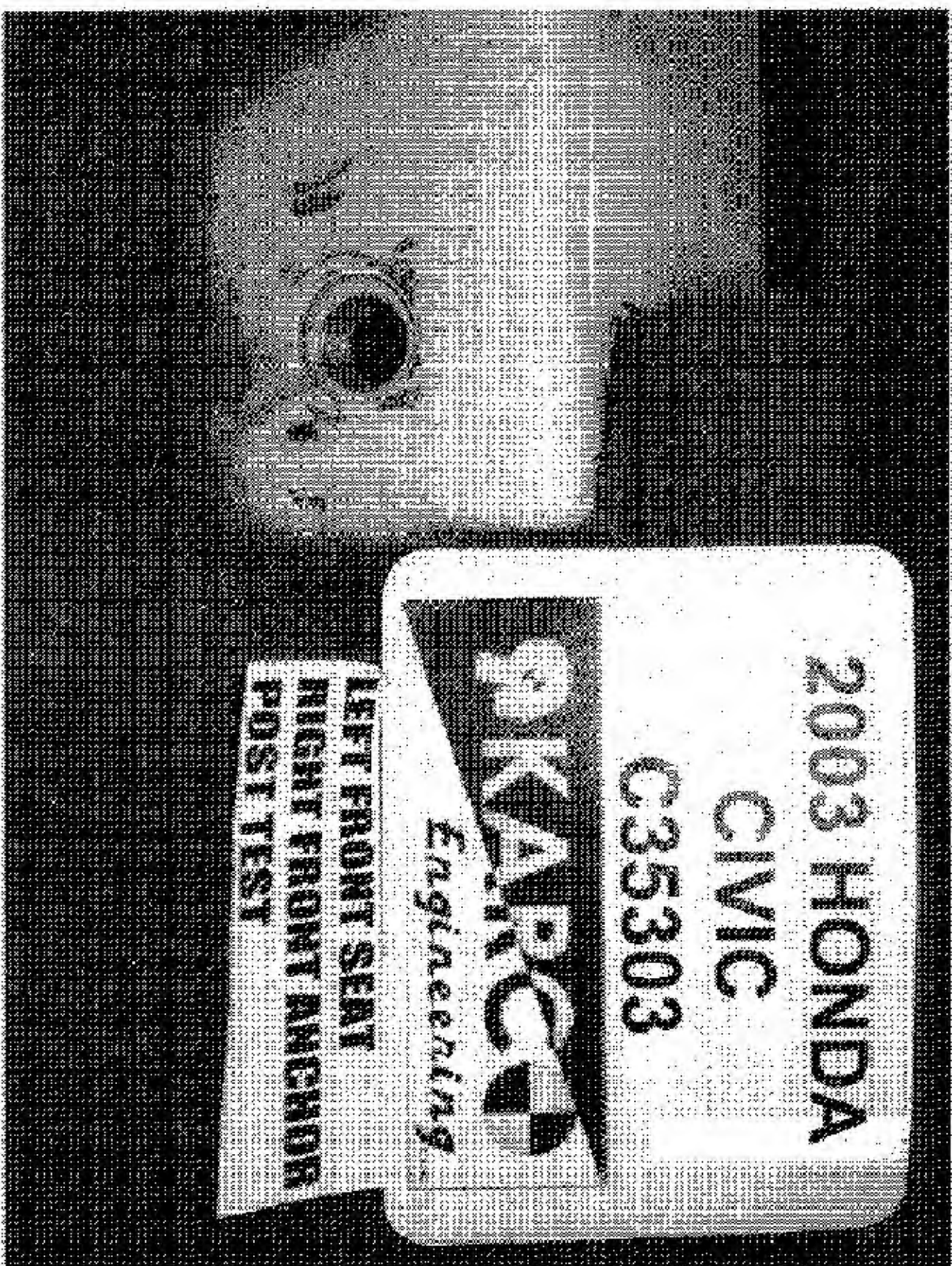


Figure A-52. Floor Pan Anchor, Left Front Seat, Post-Test

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2003 HONDA

CIVIC

LEFT FRONT SEAT

RIGHT FRONT ANCHOR

PRETEST

Figure A-53: Seat Anchor, Left Front Seat, Pre-Test

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ELKAR

Engineering

LEFT FRONT SEAT

RIGHT FRONT ANCHOR

POST TEST



Figure A-54: Seat Anchor, Left Front Seat, Post-Test



Figure A-55: Floor Pen Anchor, Left Front Seat, Pre-Test



Figure A-56: Floor Pan Anchor, Left Front Seat, Post-Test

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PIKARCO
Engineering

LEFT FRONT SEAT

LEFT REAR ANCHOR

PRETEST

Figure A-57: Seat Anchor, Left Front Seat, Pre-Test

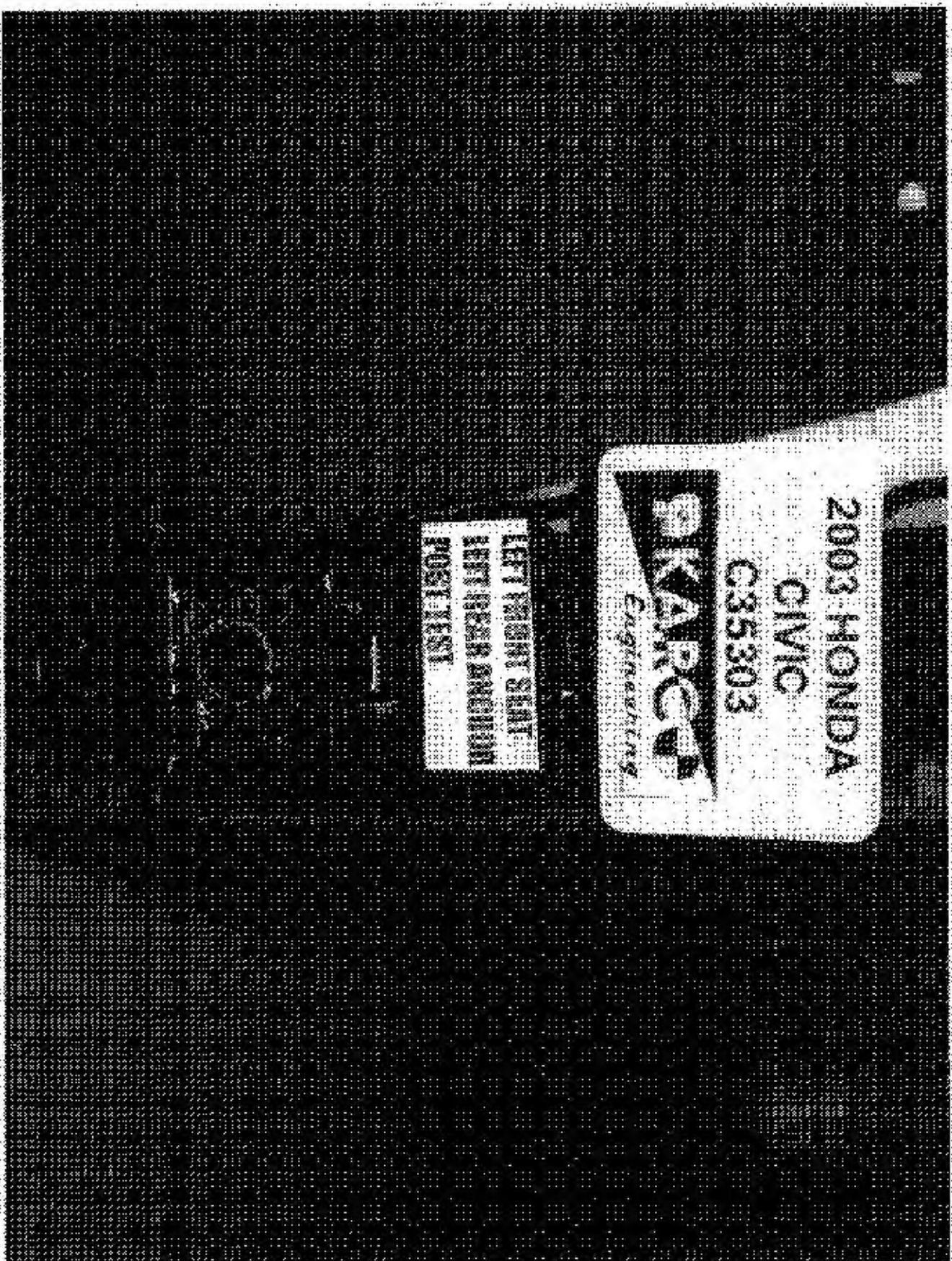


Figure A-58: Seat Anchor, Left Front Seat, Post-Test

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Engineering

LEFT FRONT SEAT
RIGHT REAR ANCHOR
PRETEST

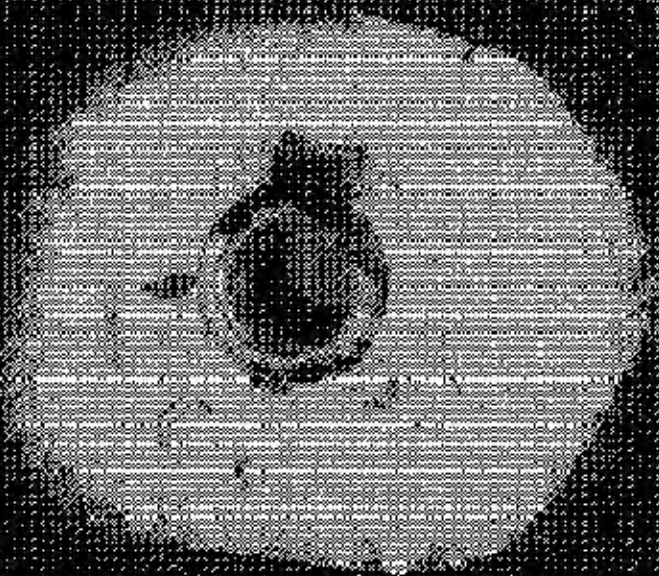


Figure A-59. Floor Pan Anchor, Left Front Seat, Pre-Test

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OKI-PC
Engineering
LEFT FRONT SEAT
RIGHT REAR ANCHOR
POST TEST

Figure A-60: Floor Pan Anchor, Left Front Seat, Post-Test

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PKARCT

Engineering

LEFT FRONT SLAT

RIGHT REAR ANCHOR

PRETEST

Figure A-61: Seat Anchor Left Front Seat, Pre-Test



Figure A-62: Seat Anchor, Left Front Seat, Post-Test



Figure A-63: Floor Plan Anchors, Right Front Seal Overall, Pre-Test



Figure A-64: Floor Pan Anchors, Right Front Seat Overall, Post-Test

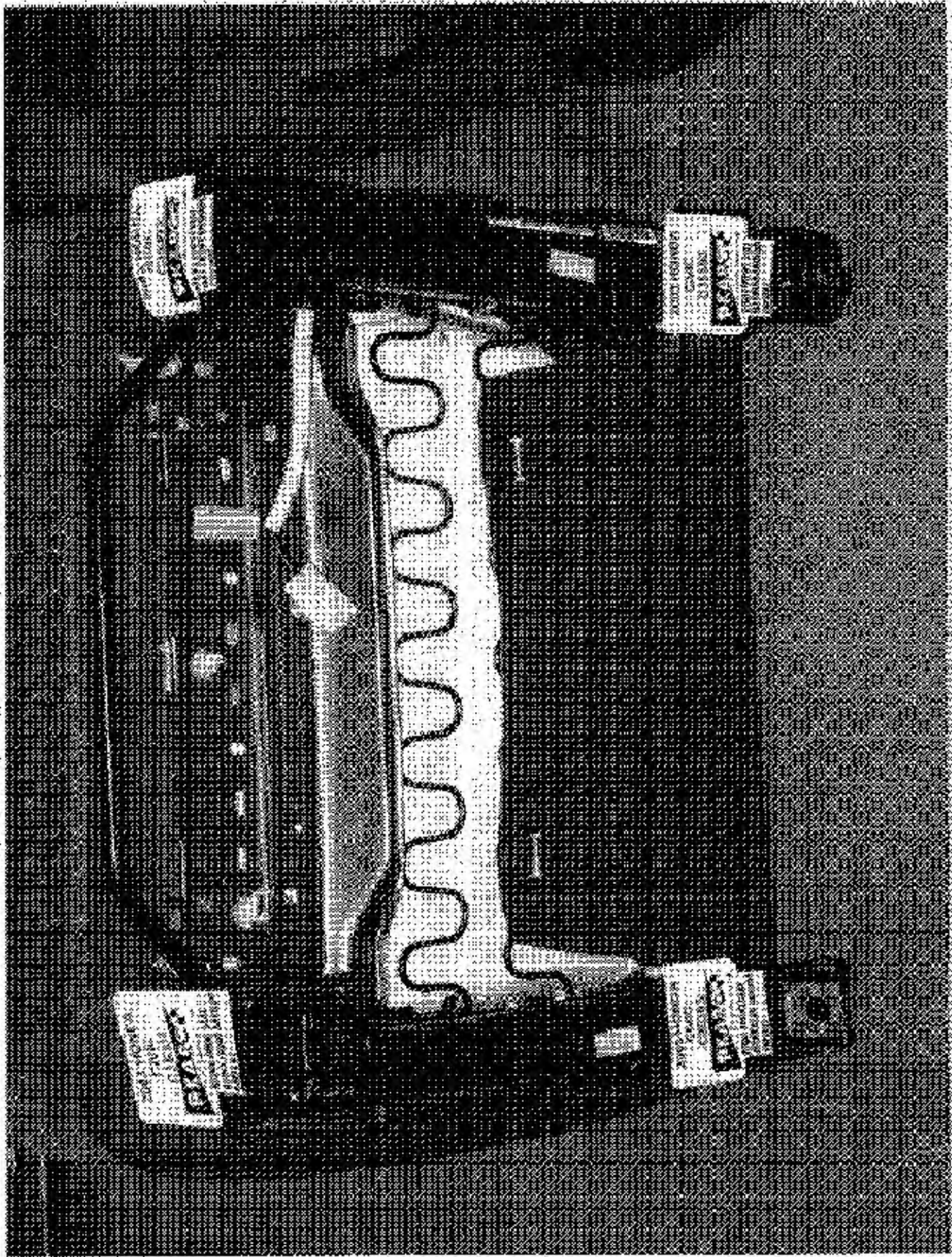


Figure A-65: Seat Anchors, Right Front Seat Overall, Pre-Test

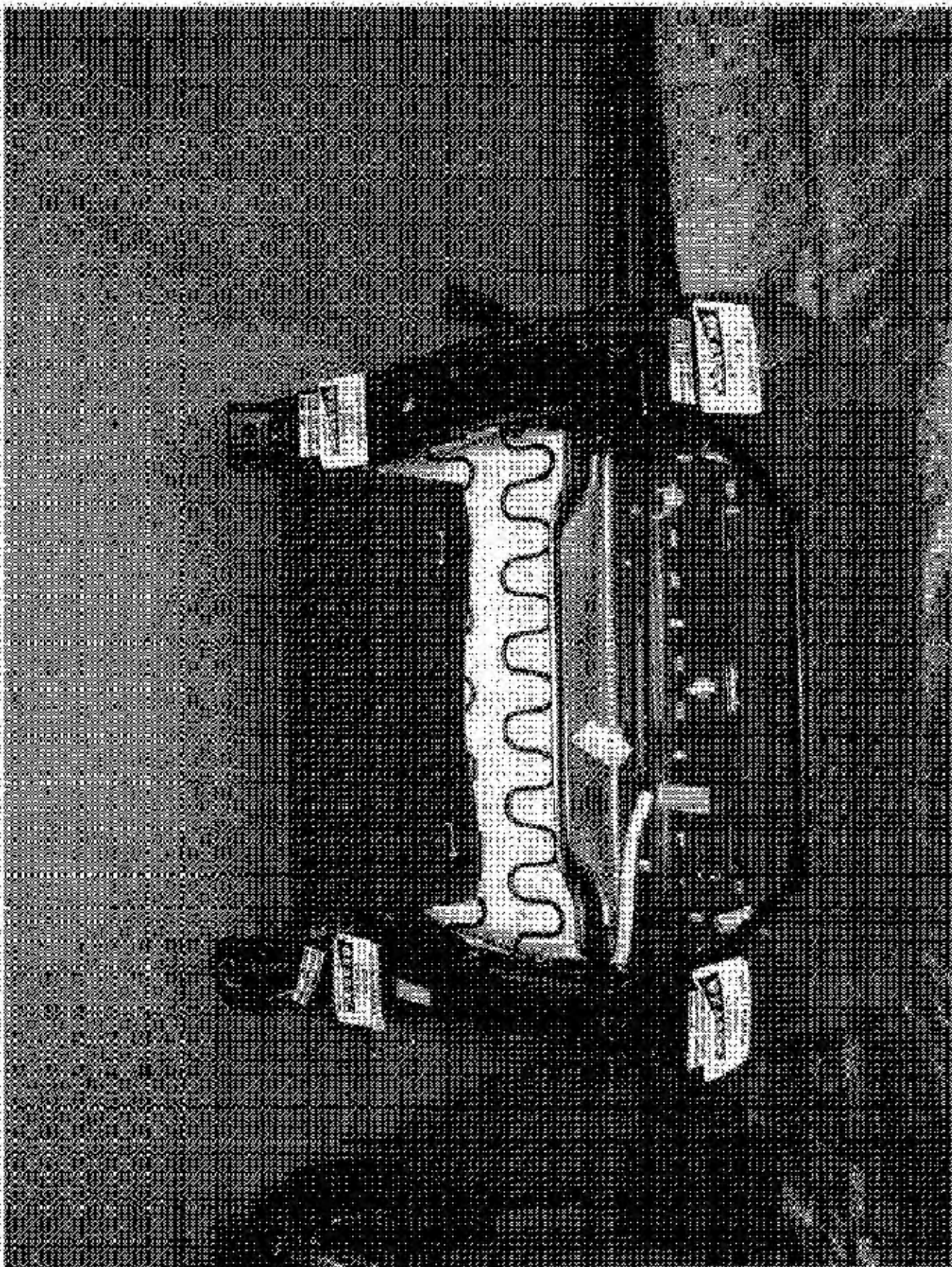


Figure A-66: Seat Anchors, Right Front Seat Overall, Post-Test



Figure A-67: Floor Pan Anchor, Right Front Seat, Pre-Test



Figure A-68: Floor Pan Anchor, Right Front Seat, Post-Test

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RIGHT FRONT SEAT

LEFT FRONT ANCHOR

PRETEST

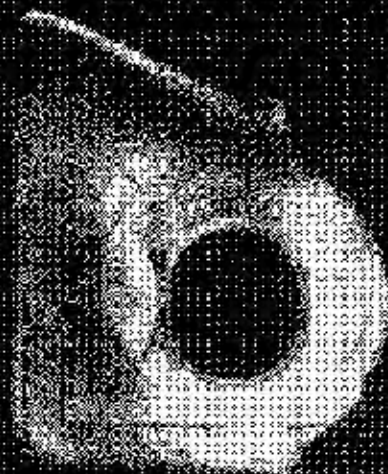


Figure A-69: Seat Anchor, Right Front Seat, Pre-Test

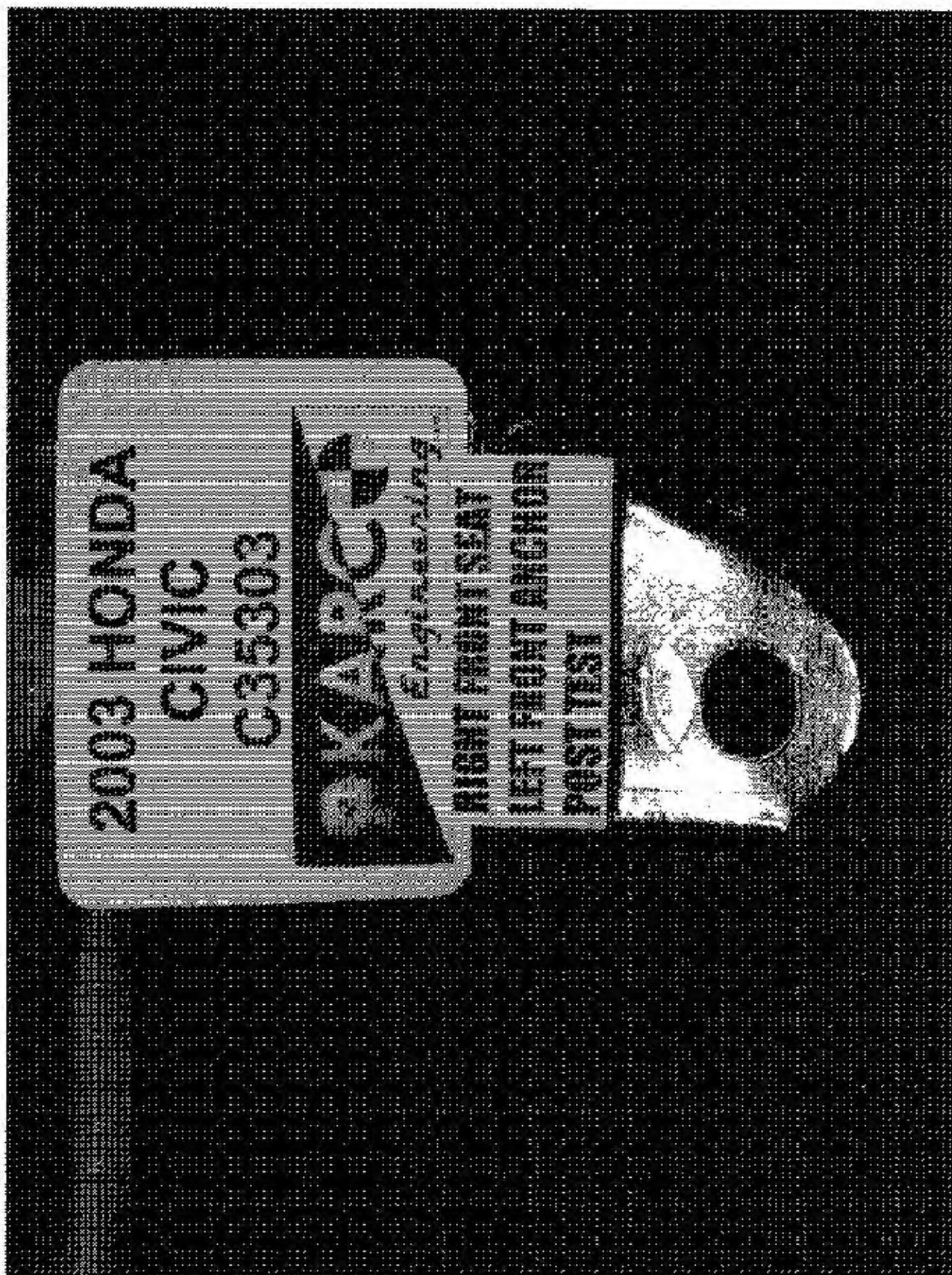


Figure A-70: Seat Anchor, Right Front Seat, Post-Test

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PTARC

Engineering

**RIGHT FRONT SEAT
RIGHT FRONT ANCHOR
PRETEST**

Figure A-71: Floor Plan Anchor, Right Front Seat, Pre-Test

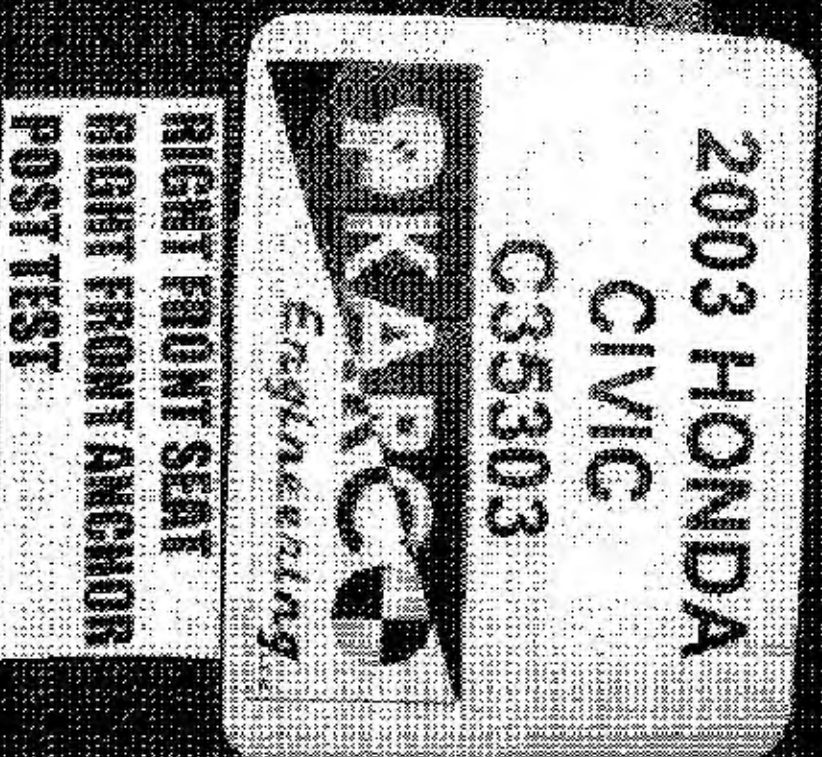
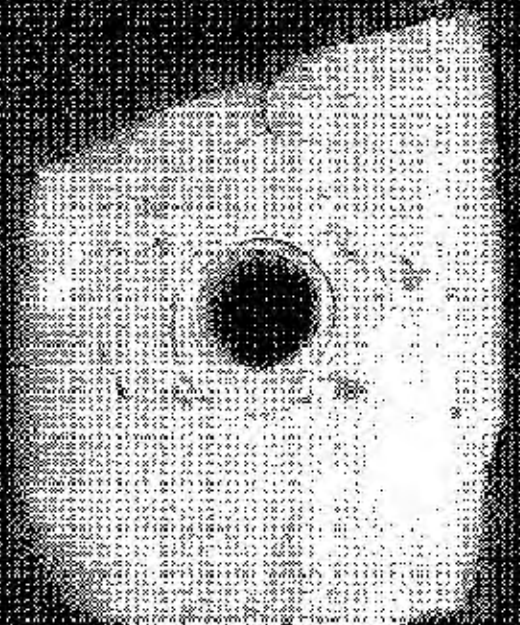


Figure A-72. Floor Pan Anchor, Right Front Seat, Post-Test

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PIKARC

Engineering, Inc.

RIGHT FRONT SEAT

RIGHT FRONT ANCHOR

PRETEST

SEAT

Figure A-73: Seat Anchor, Right Front Seat, Pre-Test



Figure A-74c Seat Anchor, Right Front Seat, Post-Test

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QKARCO
Engineering

**RIGHT FRONT SEAT
LEFT REAR ANCHOR
PRETEST**



Figure A-75: Floor Pan Anchor, Right Front Seat, Pre-Test



Figure A-76: Floor Pan Anchor, Right Front Seat, Post-Test

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C35303

MARKET

Engineering

RIGHT FRONT SEAT

LEFT REAR ANCHOR

PRETEST

Figure A-77: Seal Anchor, Right Front Seat, Pre-Test

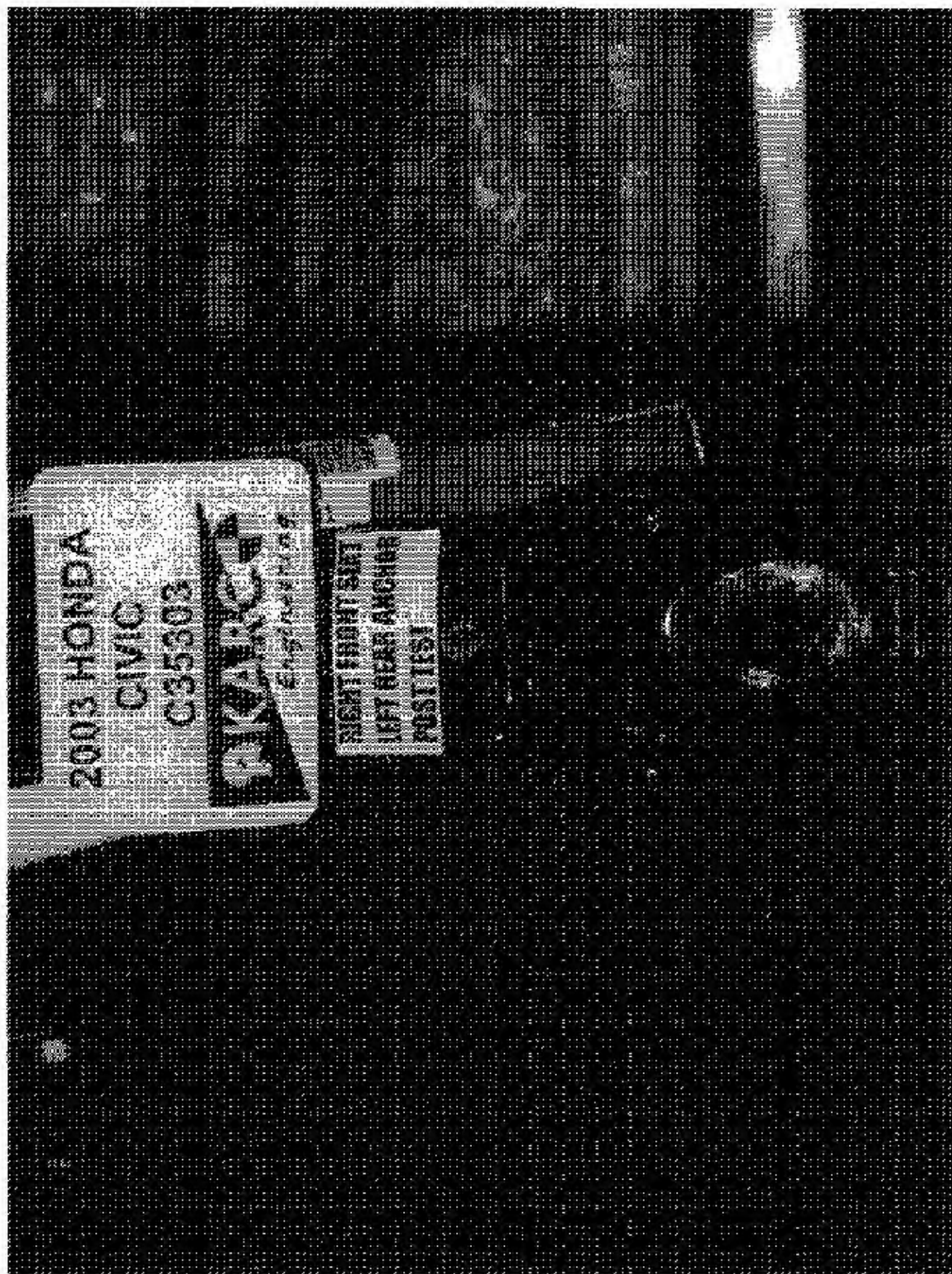


Figure A-78: Seat Anchor, Right Front Seat, Post-Test

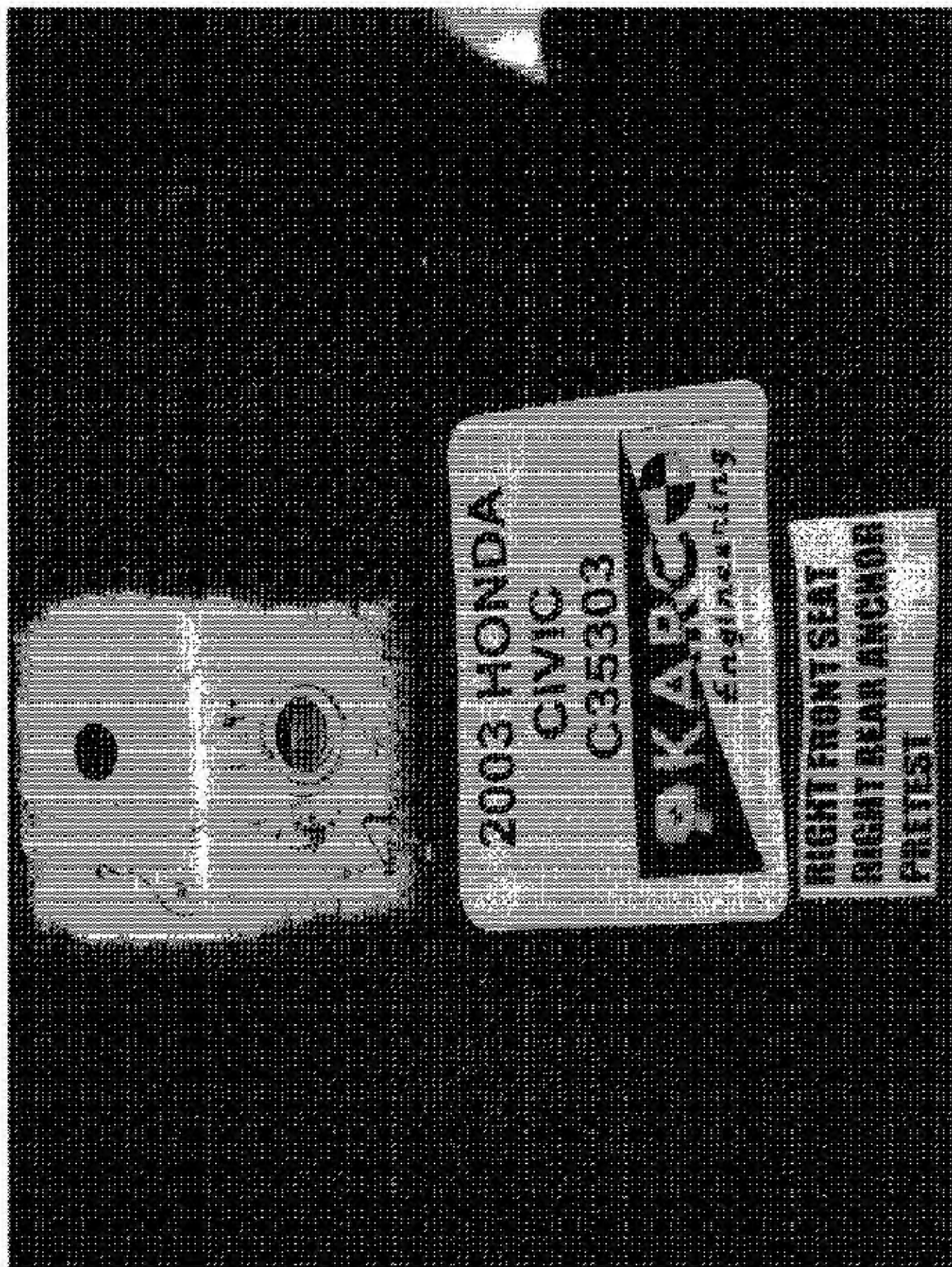


Figure A-79: Floor Pan Anchor, Right Front Seat, Pre-Test



Figure A-80: Floor Pan Anchor, Right Front Seat, Post-Test

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PKARCC

Engineering...

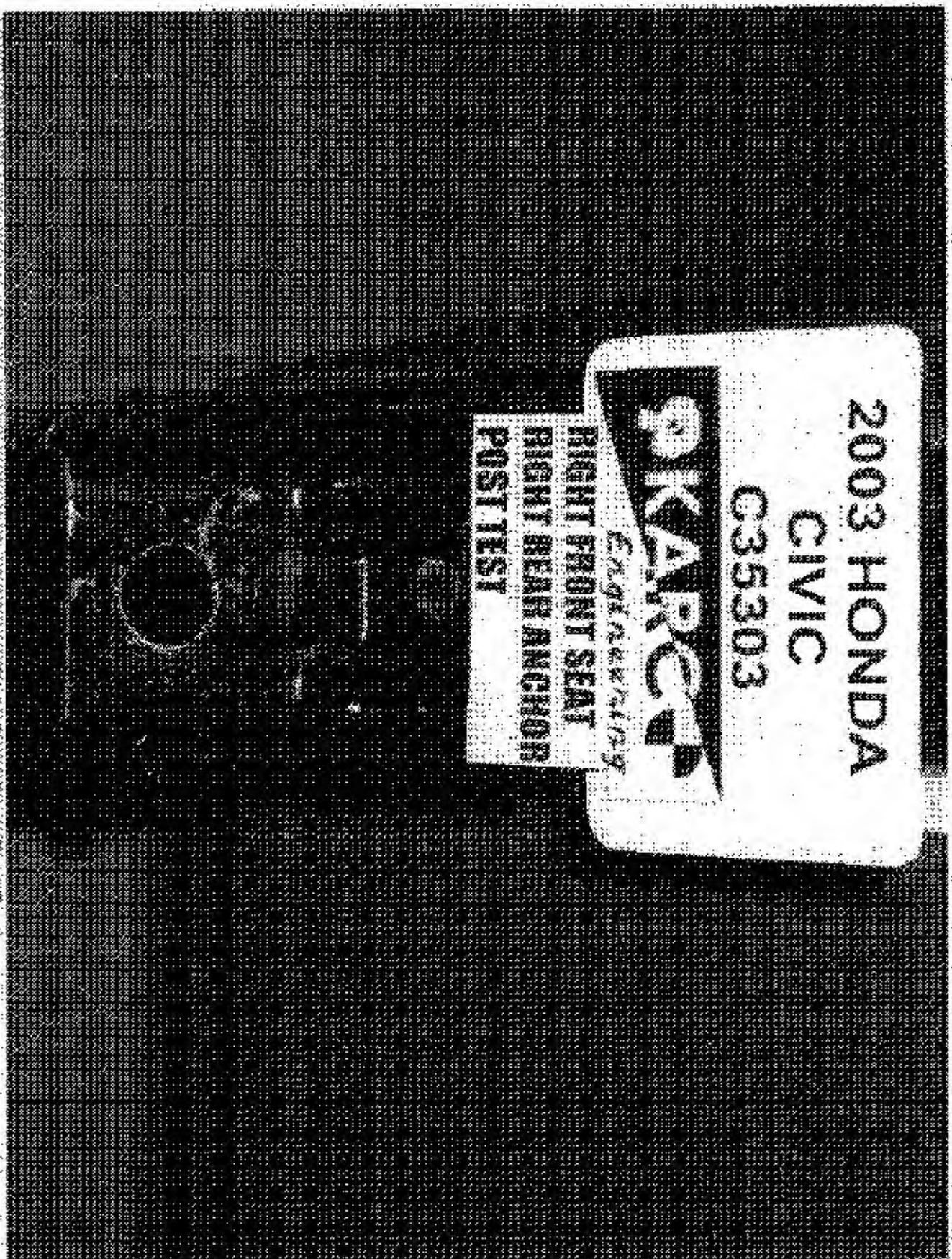
RIGHT FRONT SEAT

RIGHT REAR ANCHOR

PRETEST

Figure A-81: Seat Anchor, Right Front Seat, Pre-Test

Figure A-82: Seat Anchor, Right Front Seat, Post-Test



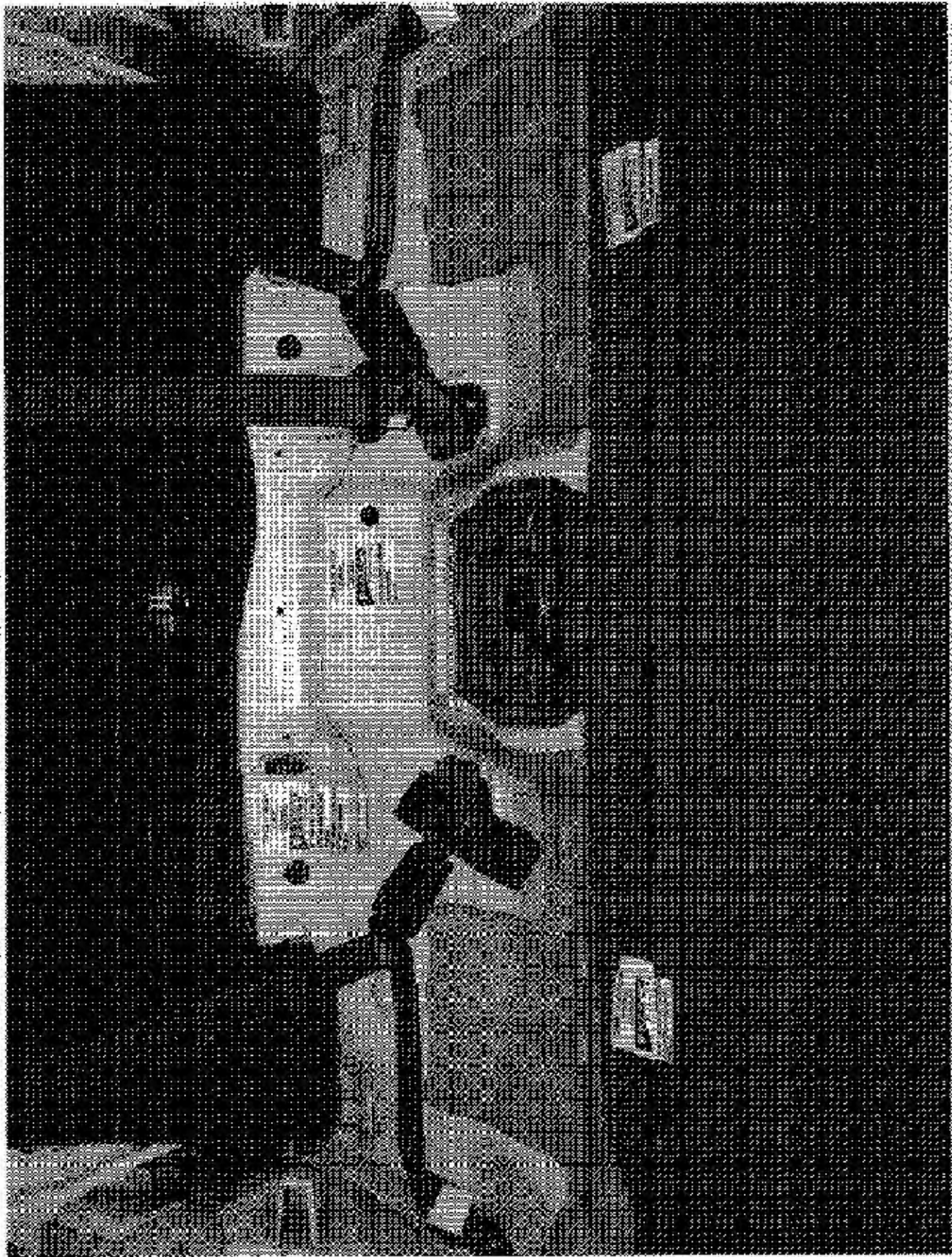


Figure A-83: Floor Pan Anchors, Rear Seat, Seat Cushion Overall, Pre-Test

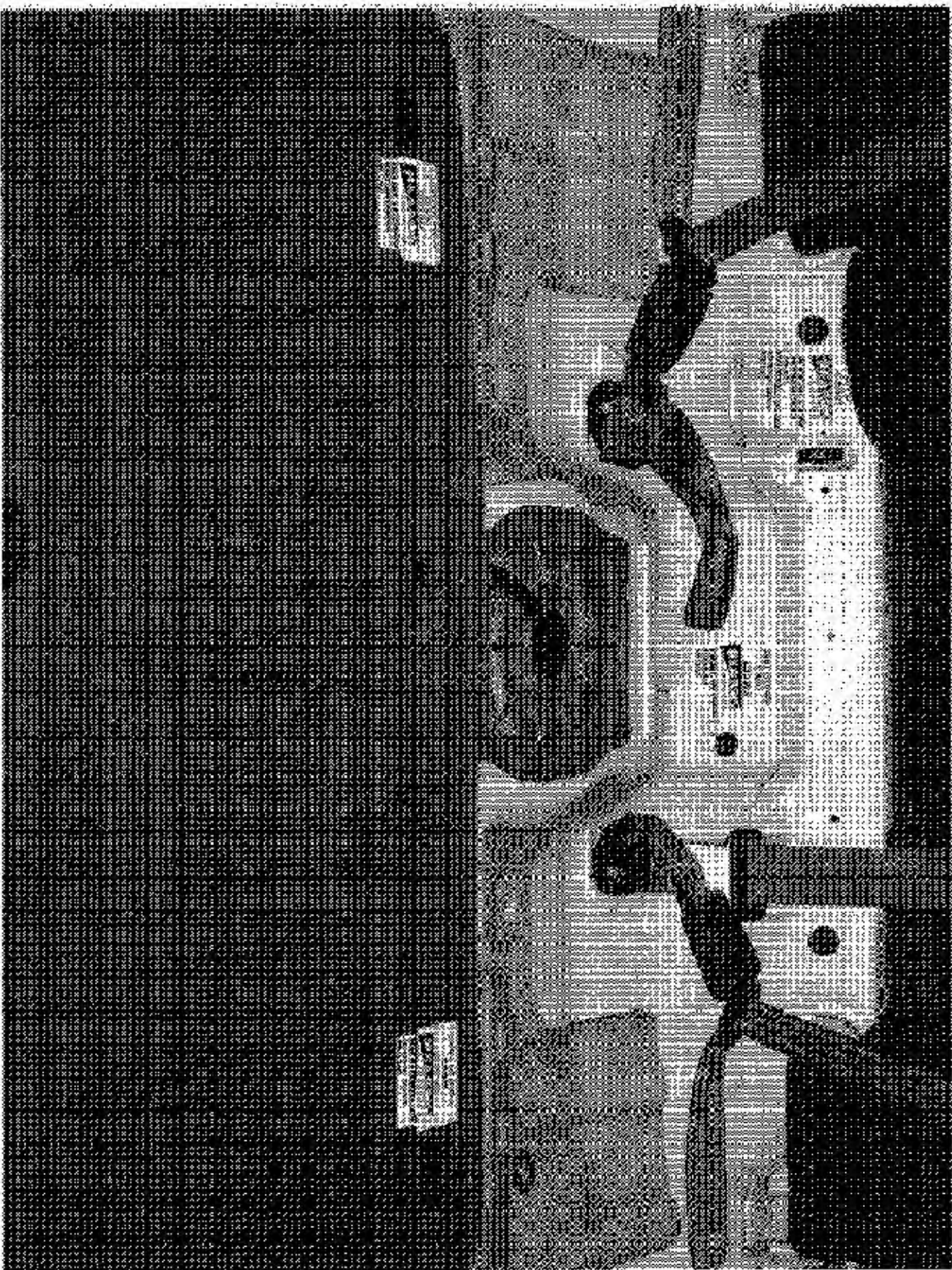


Figure A-84: Floor Pan Andriors, Rear Seat, Seat Cushion Overall, Post-Test

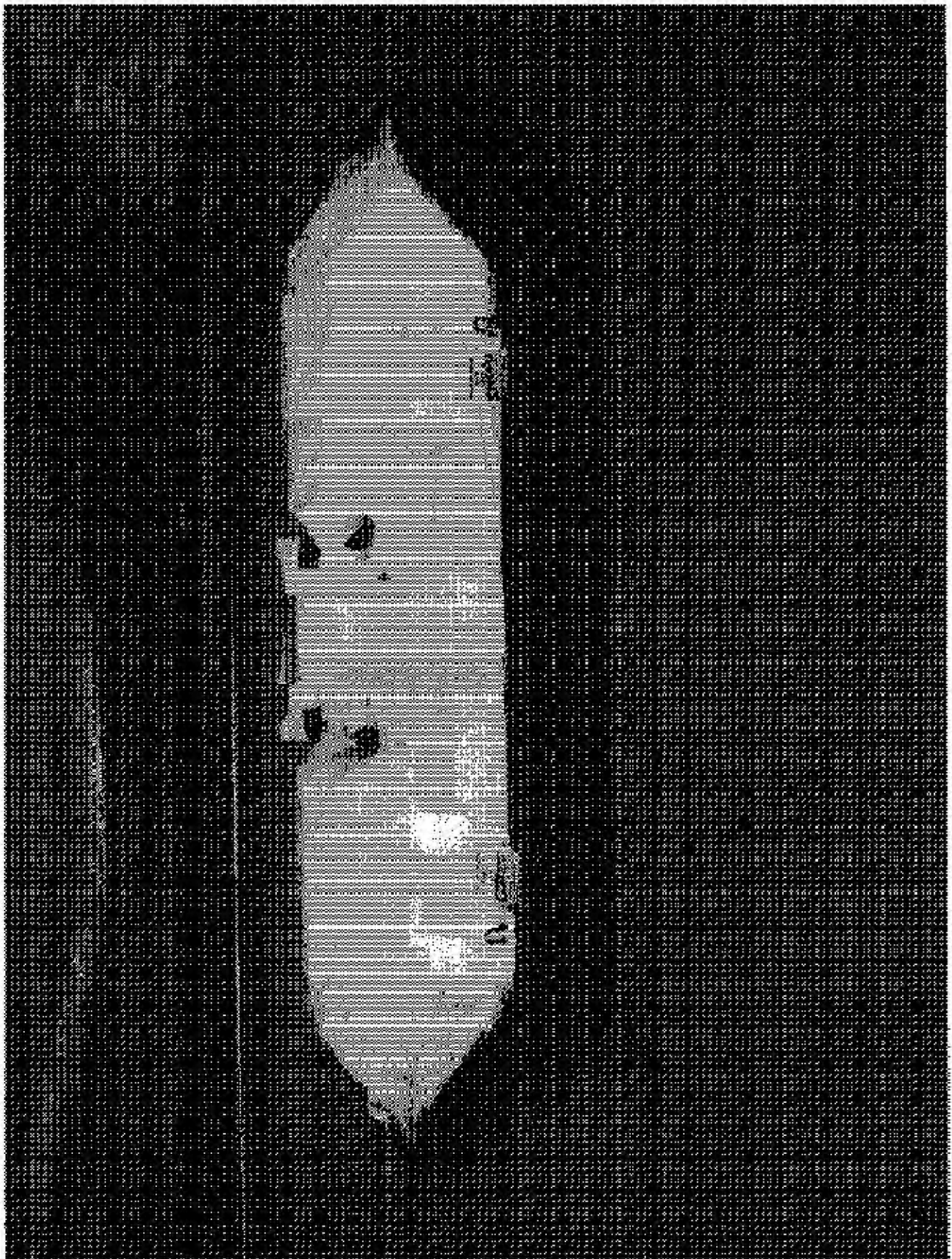


Figure A-85: Seat Anchors, Rear Seat, Seat Cushion Overall, Pre-Test

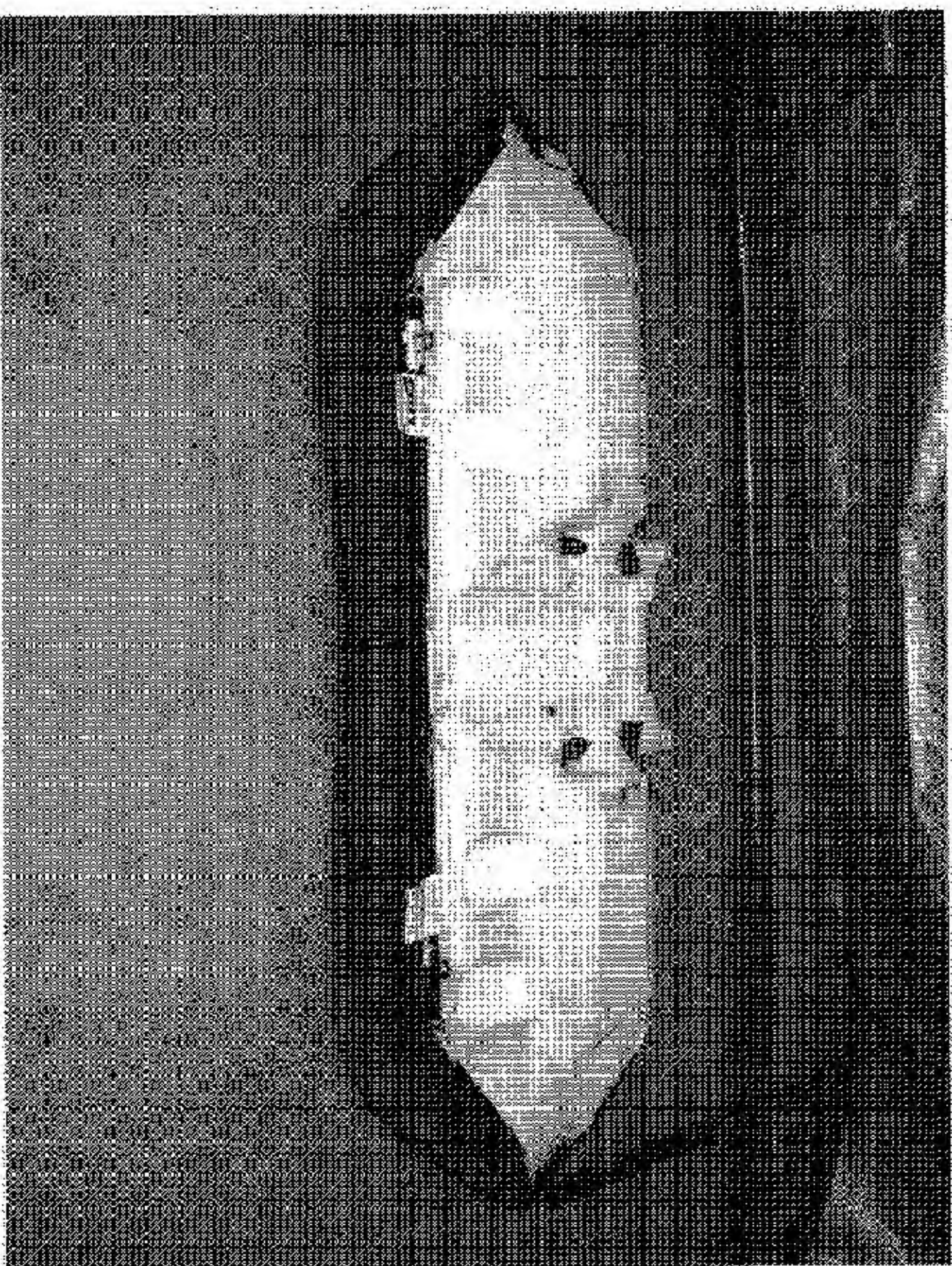


Figure A-86: Seat Anchors, Rear Seat, Seat Cushion Overall, Post-Test



Figure A-87: Floor Pan Anchor, Rear Seat, Seat Cushion, Pre-Test

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C35303



REAR SEAT, SEAT CUSHION

LEFT FRONT ANCHOR

POST TEST

Figure A-88. Floor Pan Anchor, Rear Seat, Seat Cushion, Post-Test

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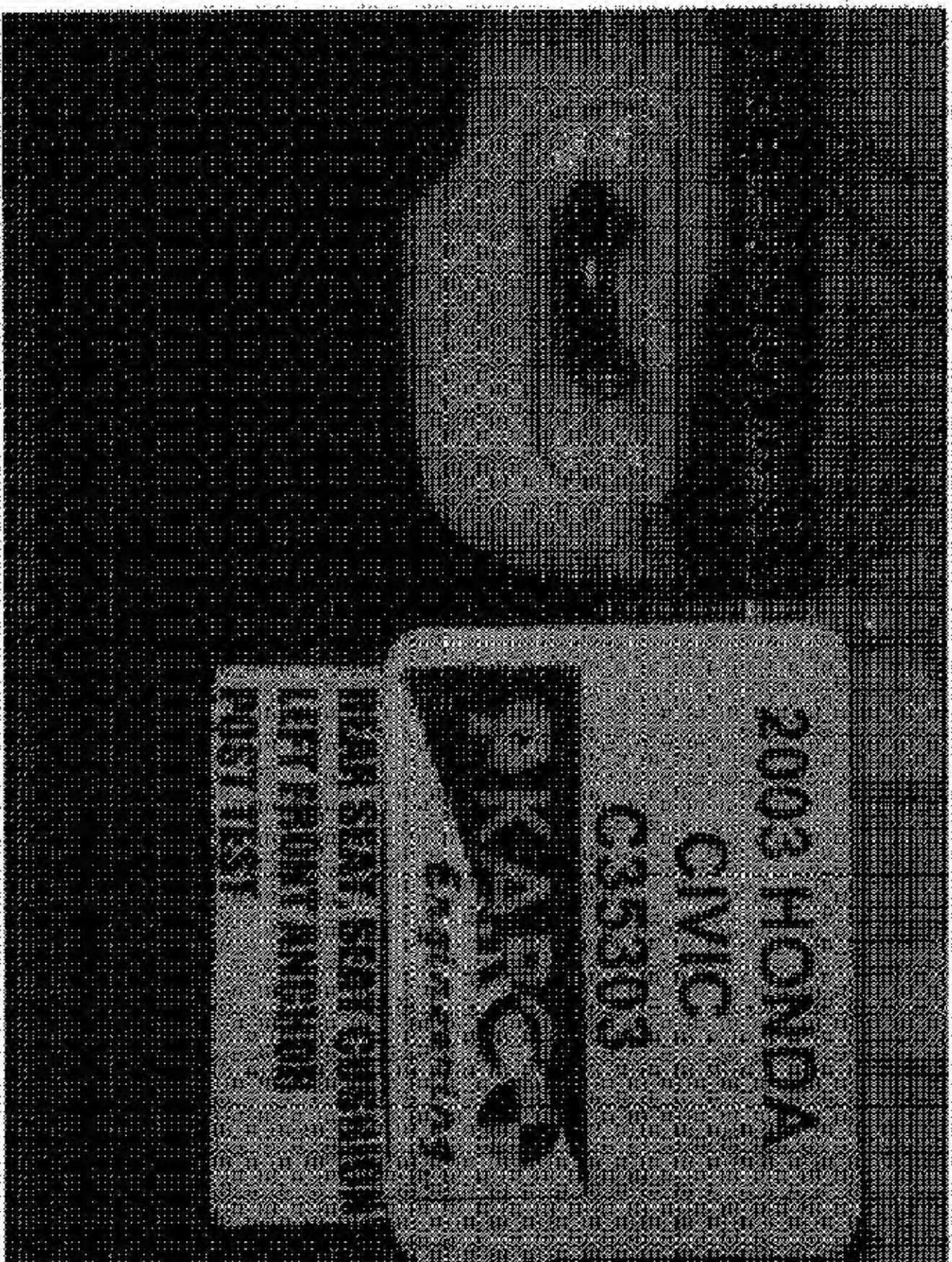
REAR SEAT, SEAT CUSHION

LEFT FRONT SECTOR

PRETEST

Figure A-89: Seat Anchor, Rear Seat, Seat Cushion, Pre-Test

Figure A-90: Seat Anchor, Rear Seat, Seat Cushion, Post-Test



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REAR SEAT, SEAT CUSHION

RIGHT FRONT ANCHOR

PRETEST

Figure A-91: Floor Pan Anchor, Rear Seat, Seat Cushion, Pre-Test

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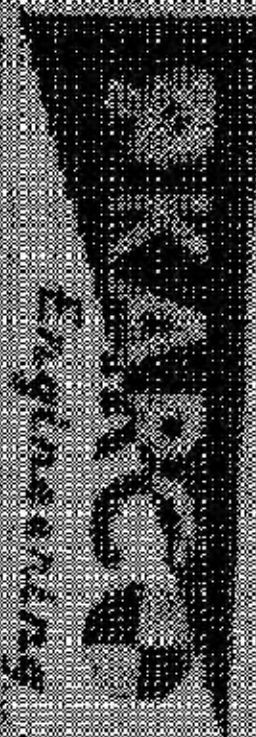
REAR SEAT SEAT CUSHION
RIGHT FRONT ANCHOR
POST TEST

Figure A-92: Floor Pan Anchor, Rear Seat, Seat Cushion, Post-Test

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Engineering

REAR SEAT, SEAT CUSHION

RIGHT FRONT ANCHOR

PRETEST

Figure A-93: Seat Anchor, Rear Seat, Seat Cushion, Pre-Test

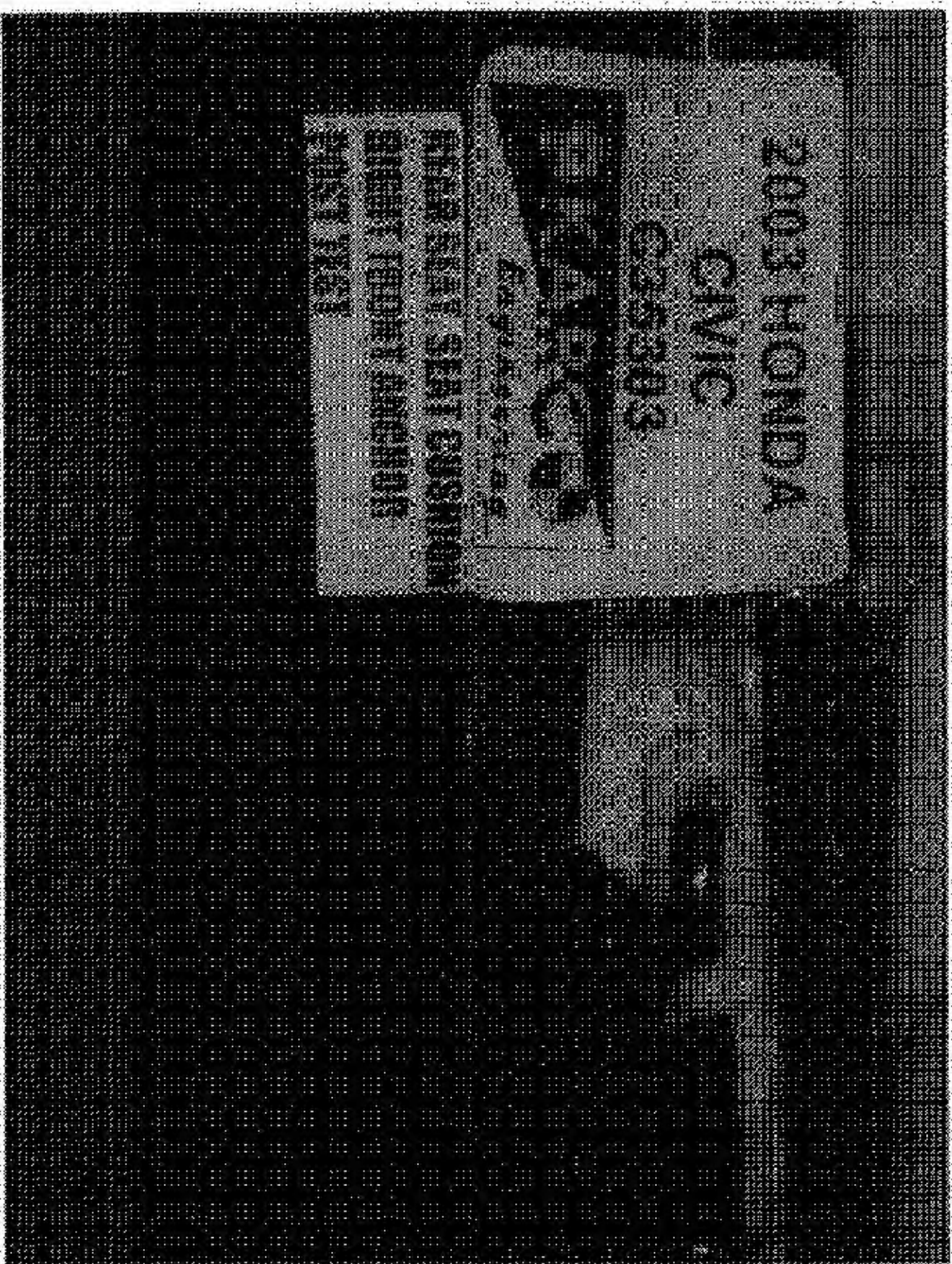


Figure A-94: Seat Anchor, Rear Seat, Seat Cushion, Post-Test

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REAR SEAT SEAT CUSHION

REAR ANCHOR

PRETEST

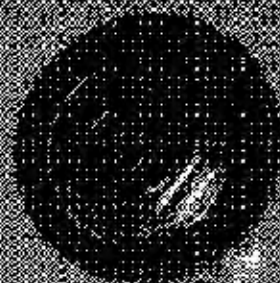


Figure A-95: Floor Pan Anchor, Rear Seat, Seat Cushion, Pre-Test

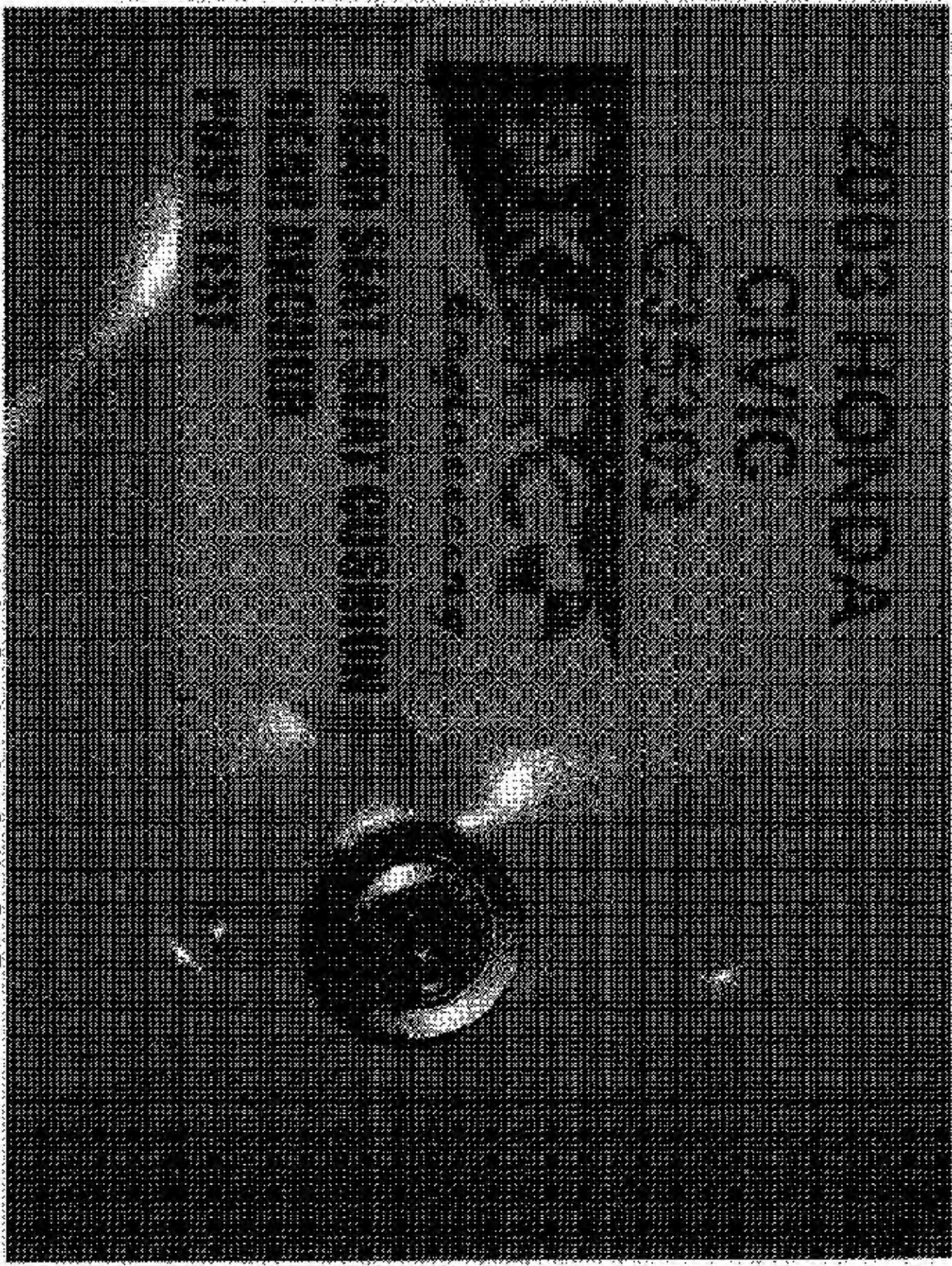


Figure A-96: Floor Pan Anchor, Rear Seat, Seat Cushion, Post-Test

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RIGHT REAR SEAT, SEAT CUSHION

REAR ANCHOR

PRETEST

Figure A-97. Seat Anchor, Rear Seat, Seat Cushion, Pre-Test

Figure A-98: Seat Anchor, Rear Seat, Seat Cushion, Post-Test



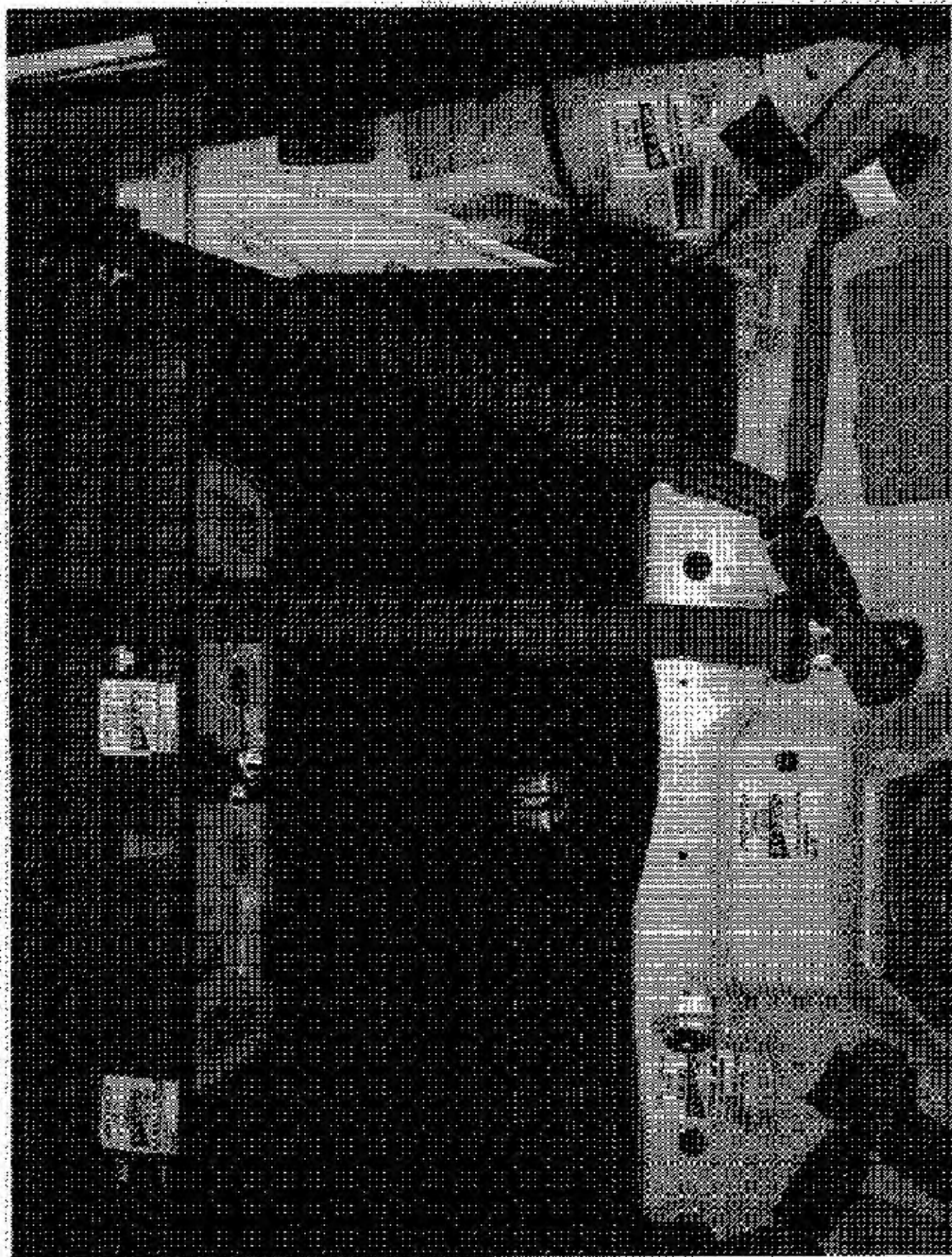


Figure A-99. Floor Pan Anchors, Left Rear Seat, Seat Back Overall, Pre-Test

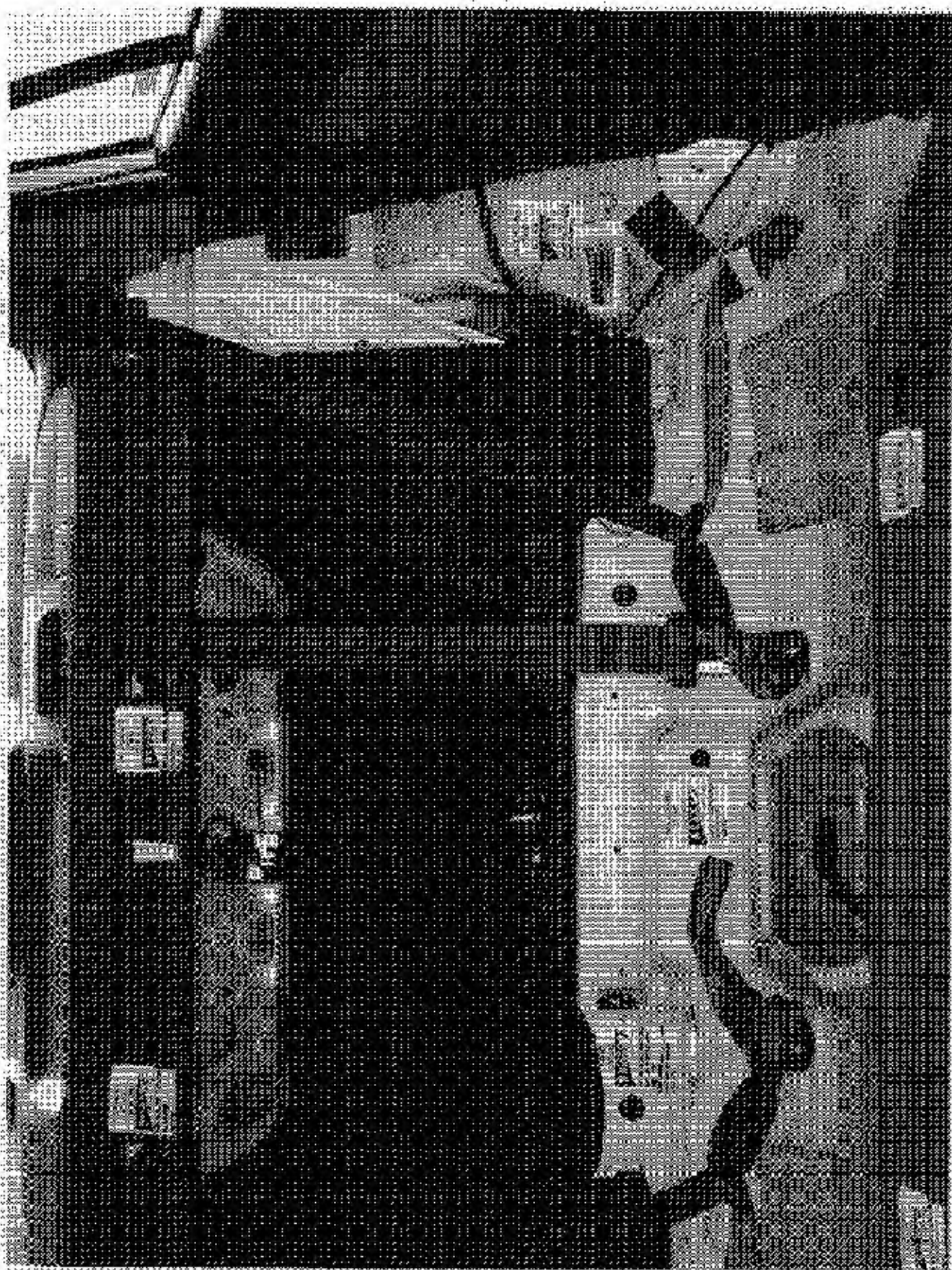


Figure A-100: Floor Pan Anchors, Left Rear Seat, Seat Back Overall, Post-Test

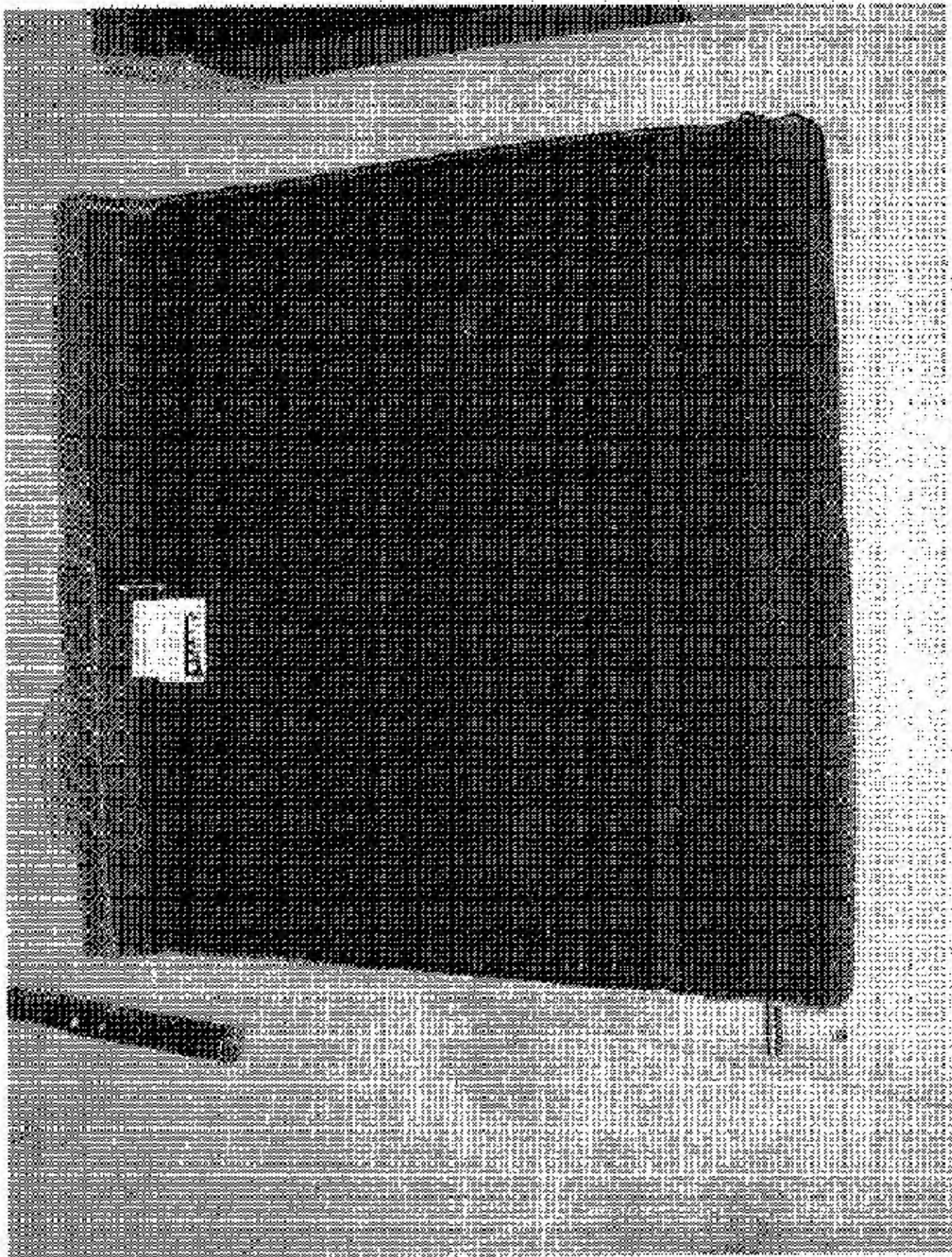


Figure A-101: Seat Anchors, Left Rear Seat, Seat Back Overall, Pre-Test

Figure A-102: Seat Anchors, Left Rear Seat, Seat Back Overall, Post-Test

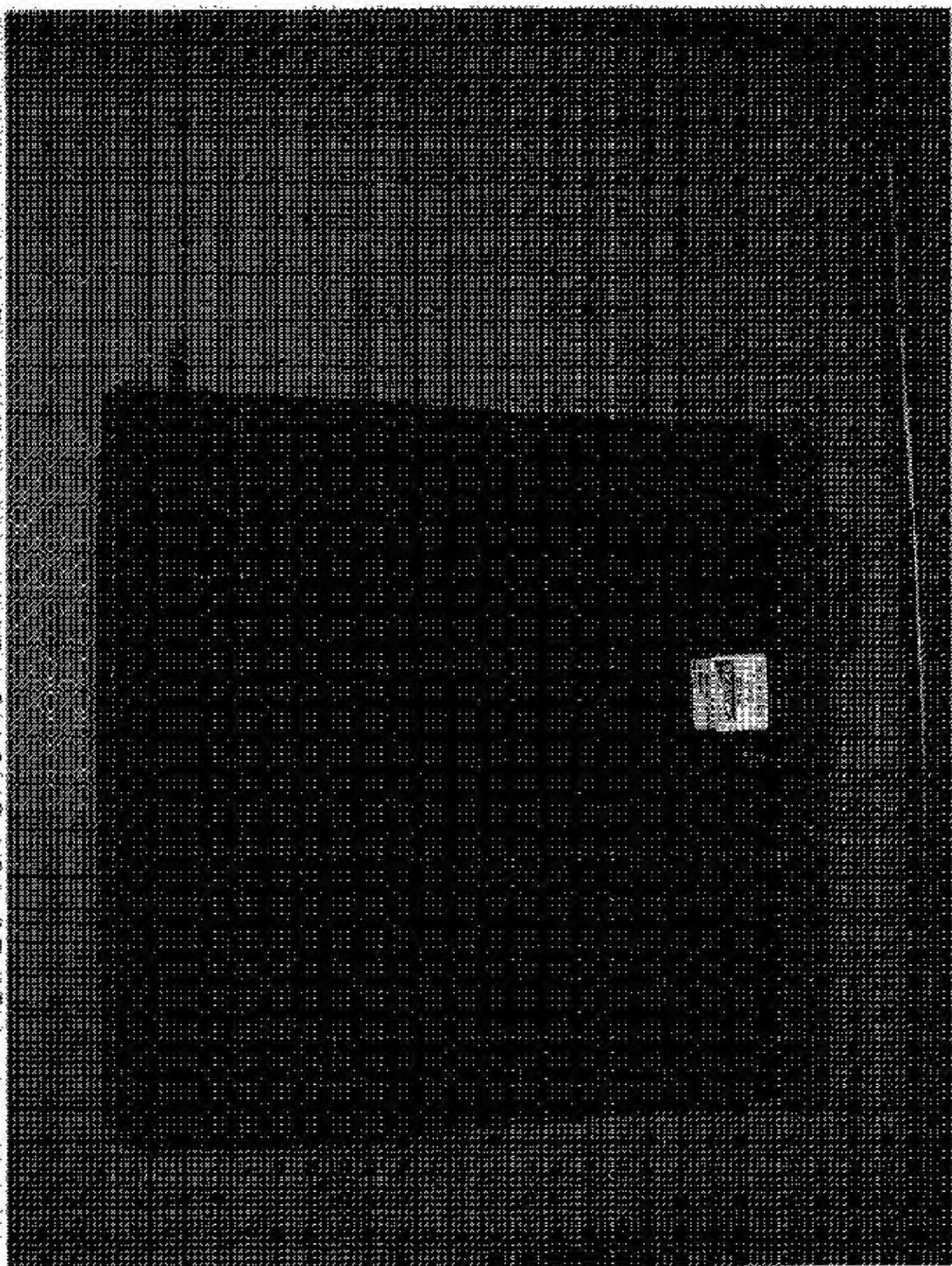




Figure A-103: Floor Pan Anchor, Left Rear Seat, Seat Back, Pre-Test

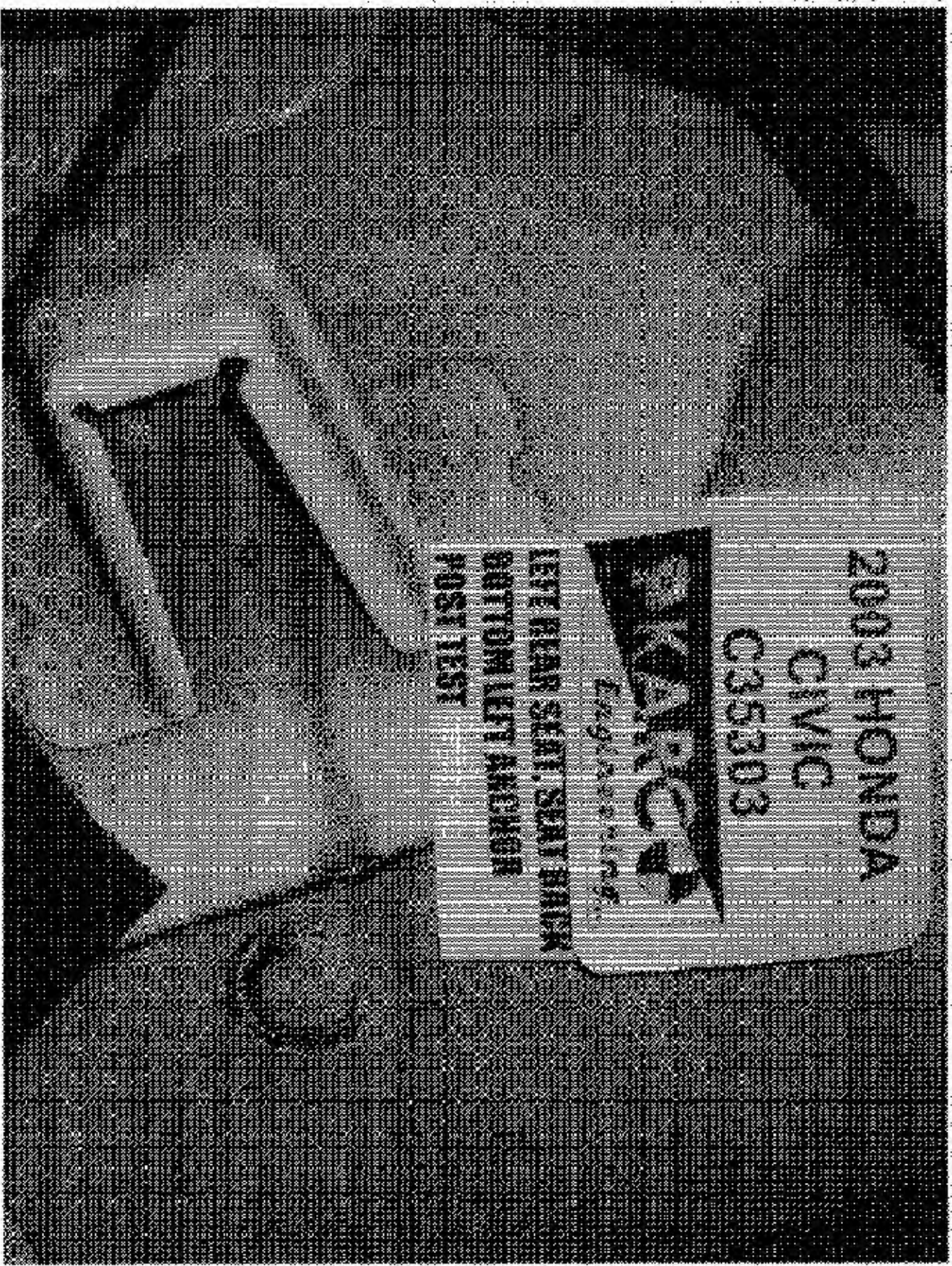


Figure A-104: Floor Pan Anchor, Left Rear Seat, Seat Back, Post-Test

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LEFT REAR SEAT, SEAT BACK

BOTTOM LEFT ANCHOR

PRETEST

Figure A-105: Seat Anchor, Left Rear Seat, Seat Back, Pre-Test

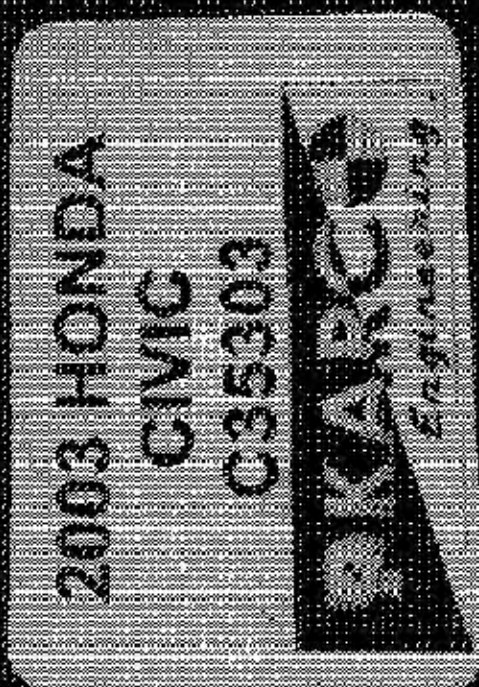


Figure A-106: Seat Anchor: Left Rear Seat, Seat Back, Post-Test

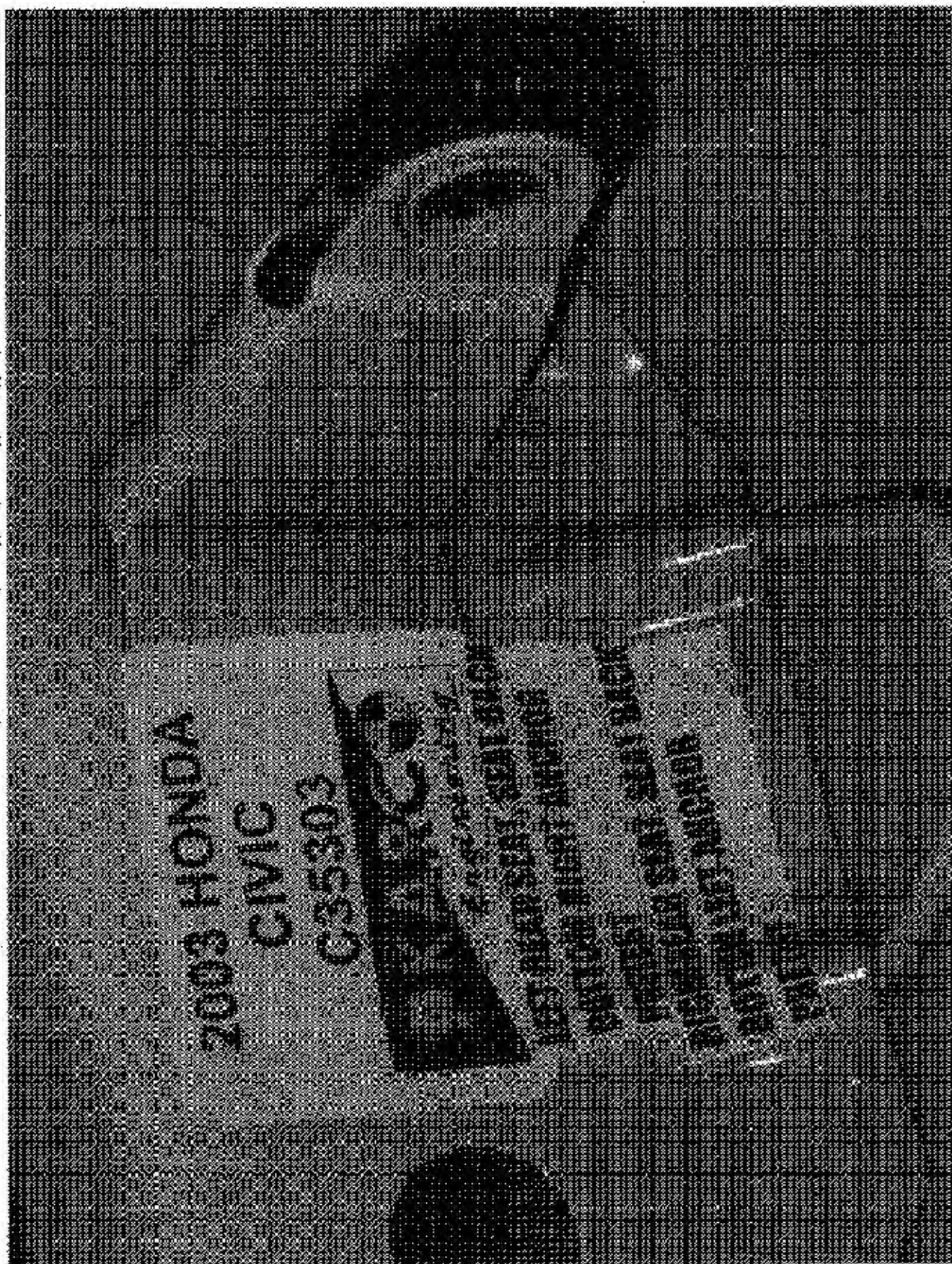


Figure A-107: Floor Pan Anchor, Left Rear Seat, Seat Back, Pre-Test

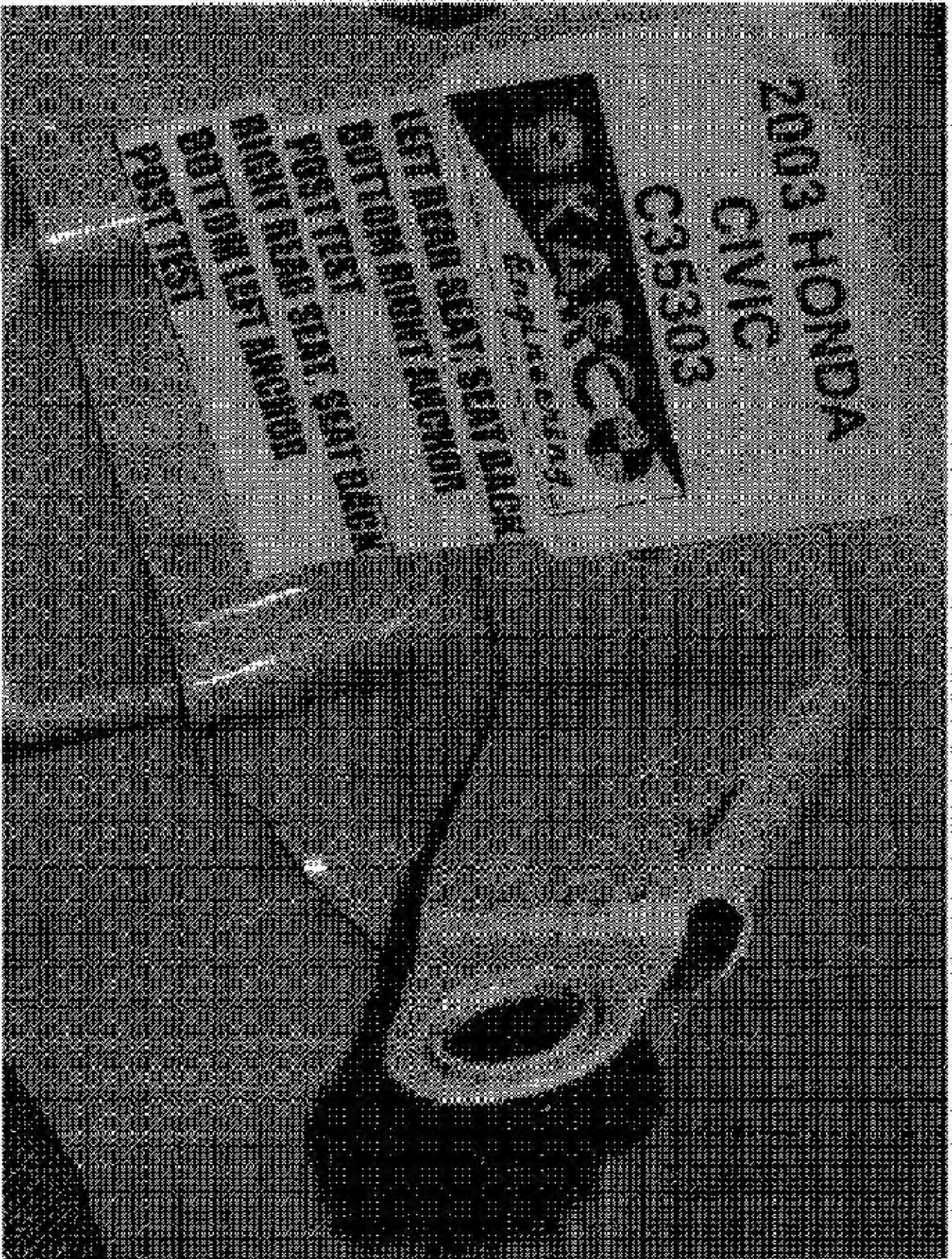


Figure A-108. Floor Pan Anchor, Left Rear Seat, Seat Back, Post-Test

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LEFT REAR SEAT, SEAT BACK

BOTTOM RIGHT ANCHOR

PRETEST



Figure A-109: Seat Anchor, Left Rear Seat, Seat Back, Pre-Test

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QUANTIC

Engineering

LEFT REAR SEAT, SEAT BACK

BOTTOM RIGHT ANCHOR

POST TEST



Figure A-110: Seat Anchor, Left Rear Seat, Seat Back, Post-Test

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SALES & SERVICE

LEFT REAR SEAT, SEAT BACK

TOP ANCHOR

PRETEST

Figure A-111: Floor Pan Anchor, Left Rear Seat, Seat Back, Pre-Test

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EXARC

Engineering

LEFT REAR SEAT, SEAT BACK

TOP ANCHOR

POST TEST

Figure A-112: Floor Pan Anchor, Left Rear Seat, Seat Back, Post-Test

**LEFT REAR SEAT, SEAT BACK
TOP ANCHOR
PRETEST**

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C35303**

PKARCA
Engineering

Figure A-113: Seat Anchor, Left Rear Seat, Seat Back, Pre-Test

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OKARCT

Engineering

LEFT REAR SEAT, SEAT BACK
TOP ANCHOR
POST TEST

Figure A-114: Floor Pan Anchor, Left Rear Seat, Seat Back, Post-Test



Figure A-115: Floor Pan Anchors, Right Rear Seat, Seat Back Overall, Pre-Test

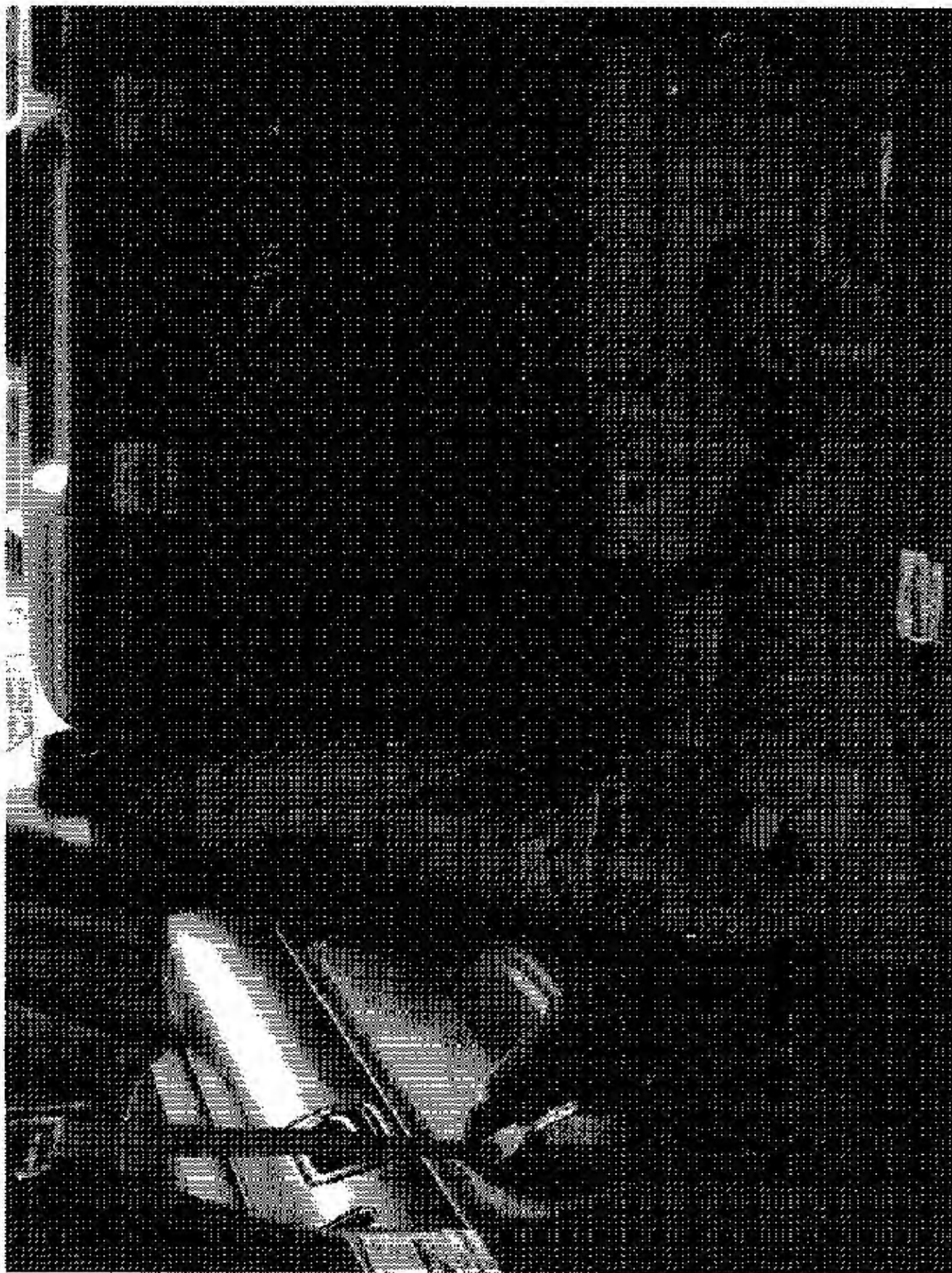


Figure A-116: Floor Pan Anchors, Right Rear Seat, Seat Back Overall, Post-Test

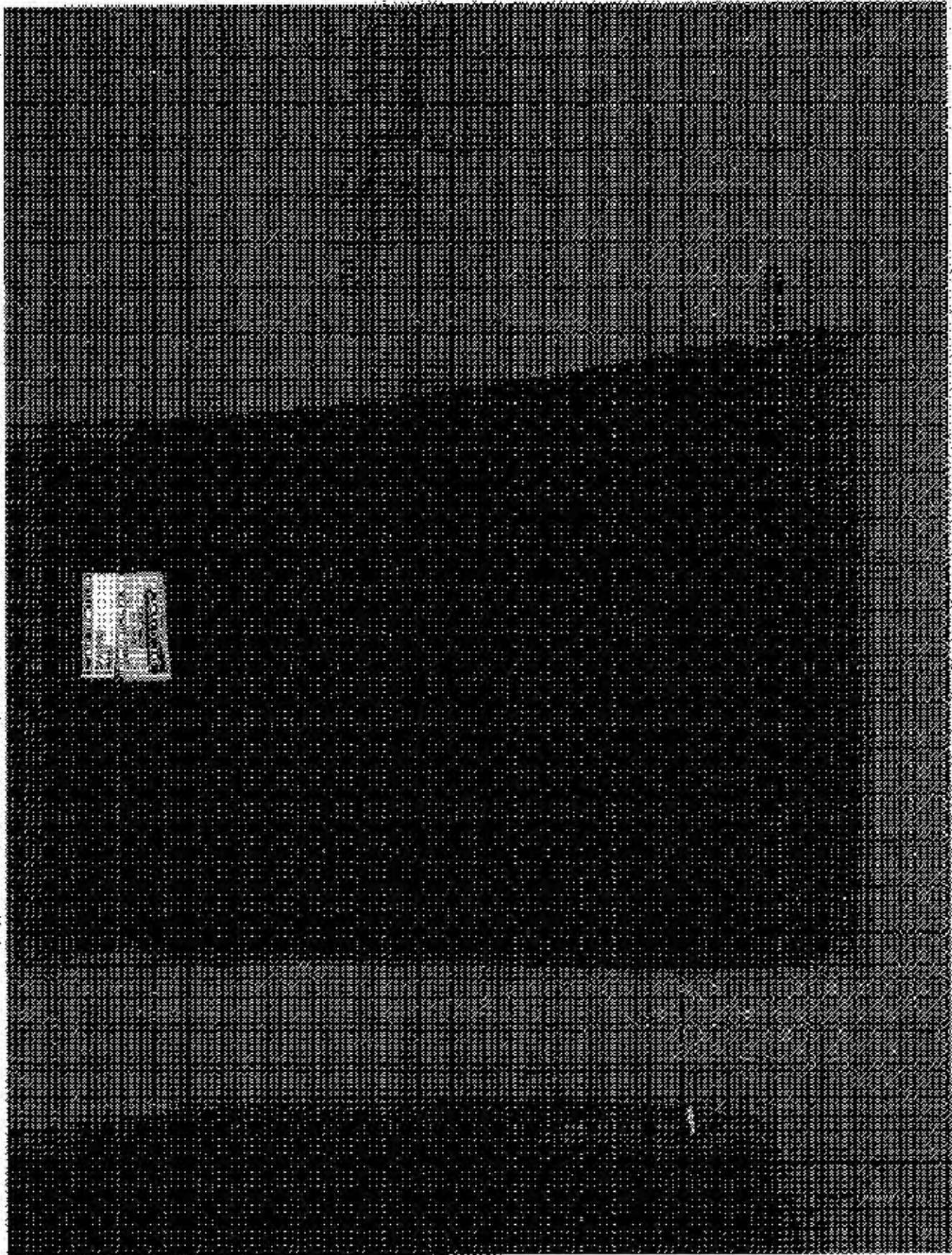


Figure A-117: Seat Anchors, Flight Rear Seat, Seat Back Overall, Pre-Test

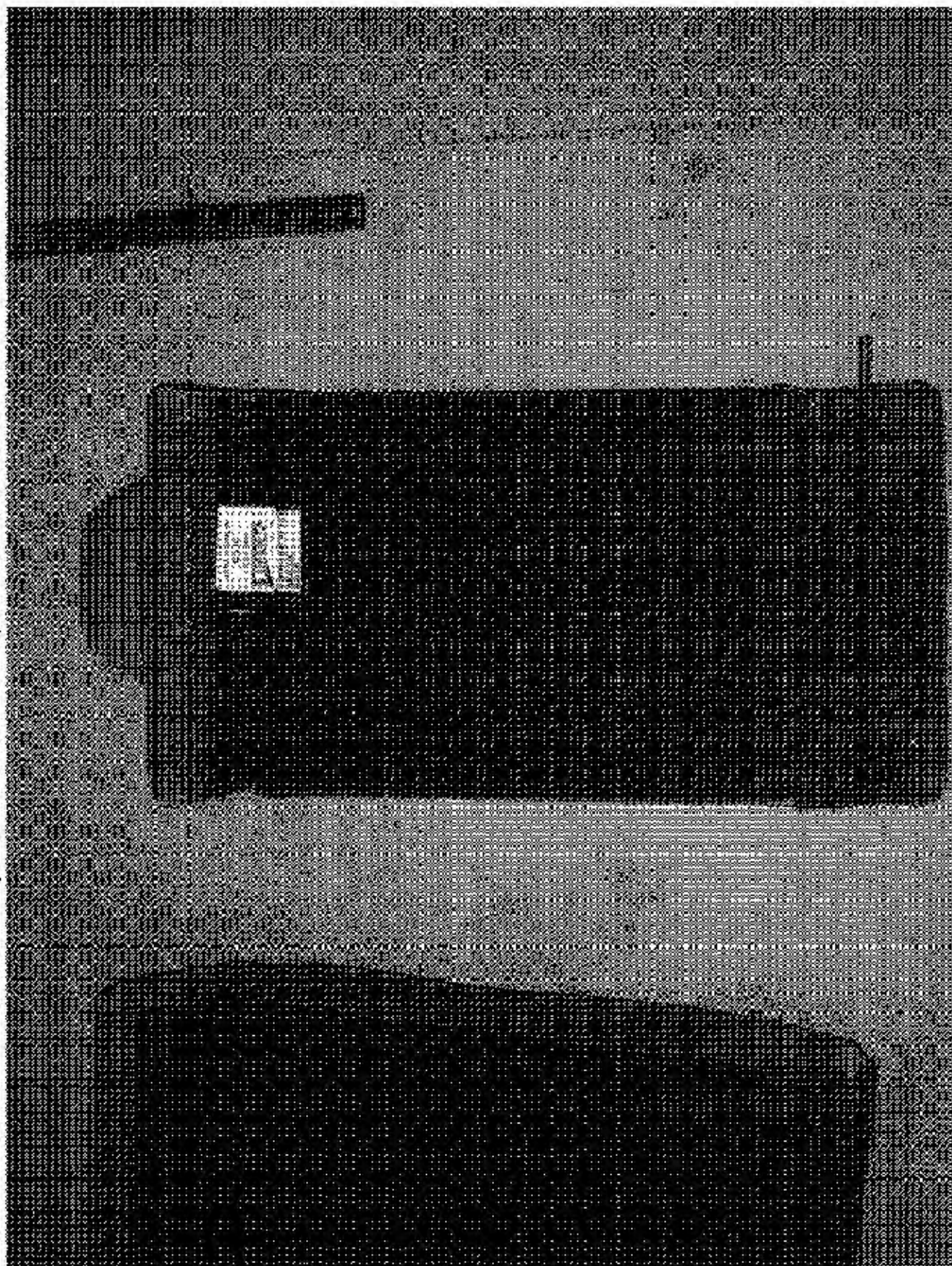


Figure A-118: Seat Anchors, Right Rear Seat, Seat Back Overall, Post-Test

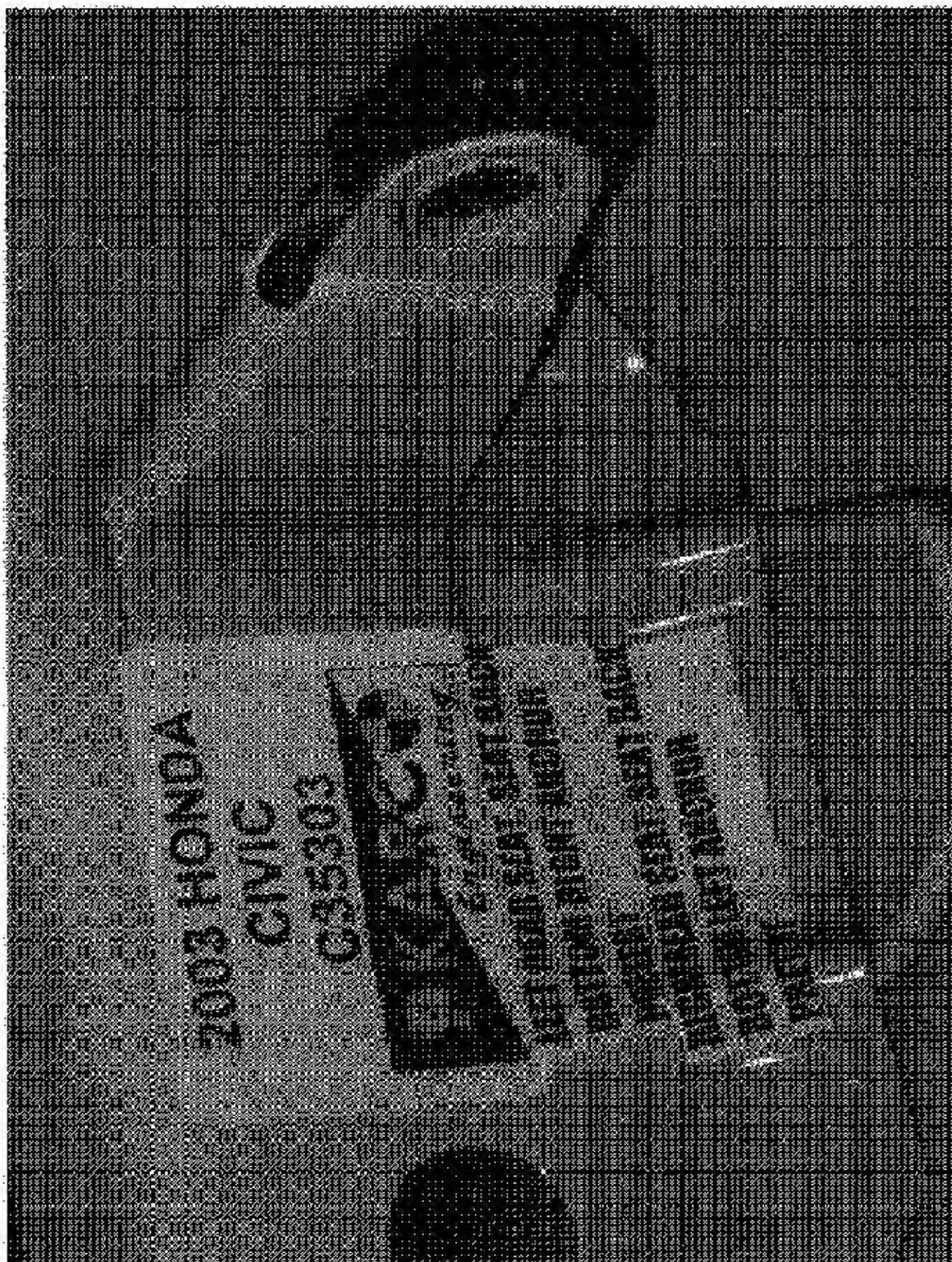


Figure A-119: Floor Pan Anchor, Right Rear Seat, Seat Back, Pre-Test

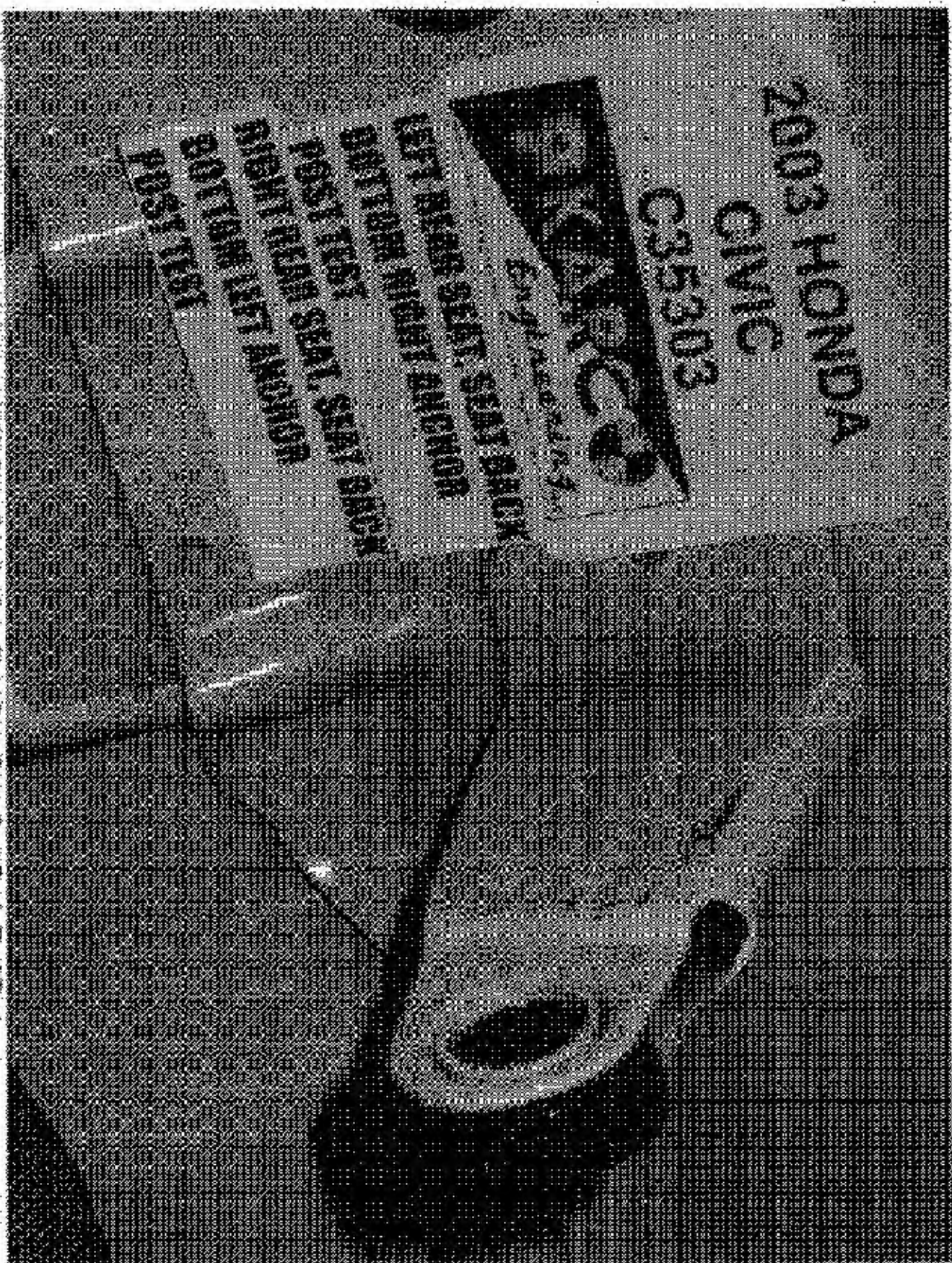


Figure A-120: Floor Pan Anchor, Right Rear Seat, Seat Back, Post-Test



Figure A-121: Seat Anchor, Right Rear Seat, Seat Back, Pre-Test

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**RIGHT REAR SEAT, SEAT BACK
BOTTOM LEFT ANCHOR
POST TEST**

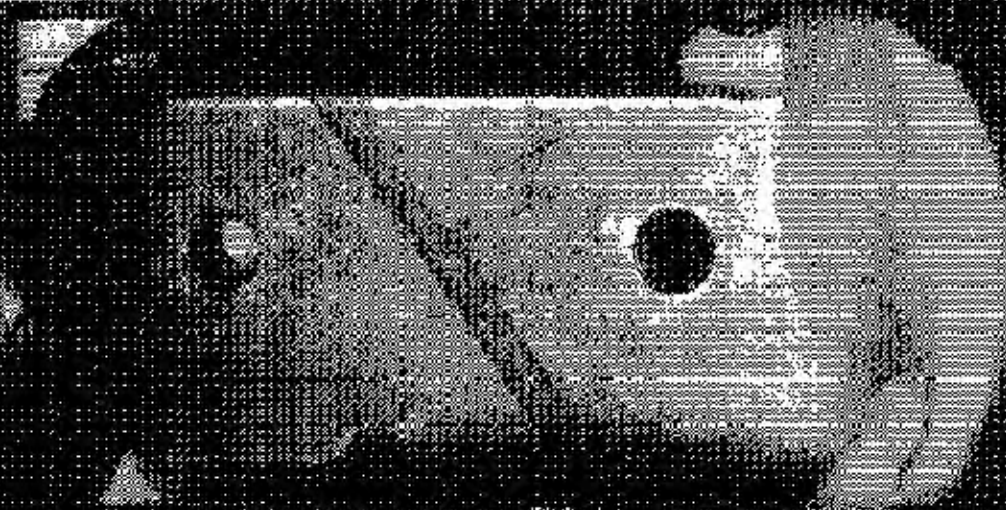


Figure A-122: Seat Anchor, Right Rear Seat, Seat Back, Post-Test

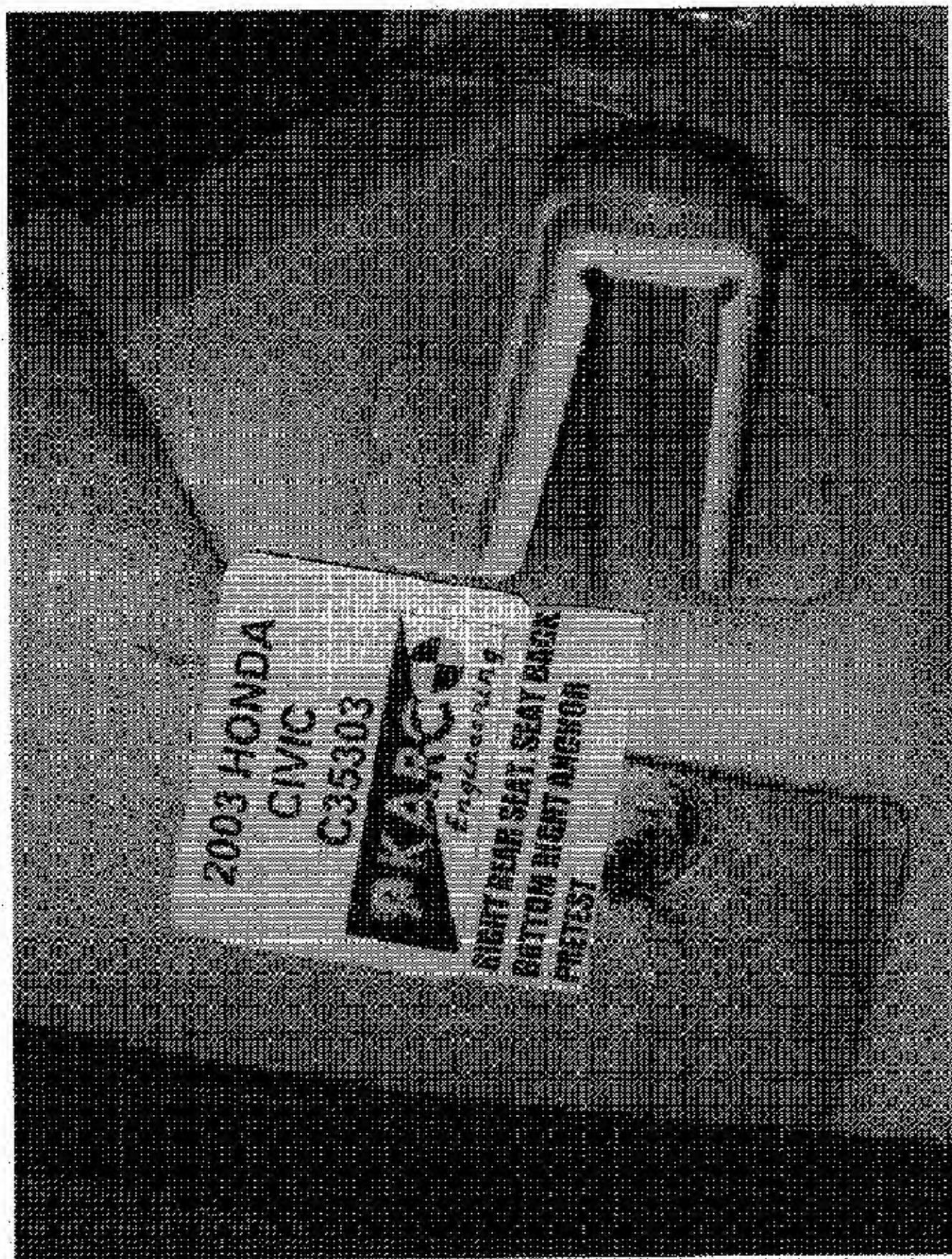


Figure A-123: Floor Pan Anchor, Right Rear Seat, Seat Back, Pre-Test

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RIGHT REAR SEAT, SEAT BACK
BOTTOM RIGHT ANCHOR
POST TEST



Figure A-124: Floor Pan Anchor, Right Rear Seat, Seat Back, Post-Test

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RIGHT REAR SEAT, SEAT BACK

BOTTOM RIGHT ANCHOR

PRETEST

Figure A-125: Seat Anchor, Right Rear Seat, Seat Back, Pre-Test

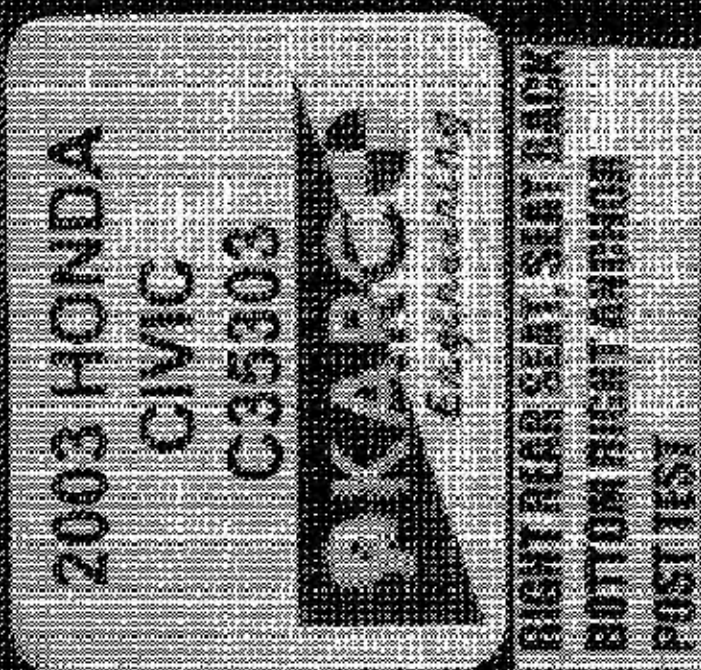


Figure A-126: Seat Anchor, Right Rear Seat, Seat Back, Post-Test



Figure A-127: Floor Pan Anchor, Right Rear Seat, Seat Back, Pre-Test



Figure A-128: Floor Pan Anchor, Right Rear Seat, Seat Back, Post-Test

**RIGHT REAR SEAT, SEAT BACK
TOP ANCHOR
PRETEST**

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Figure A-129: Seat Anchor, Right Rear Seat, Seat Back, Pre-Test

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CLIMATE

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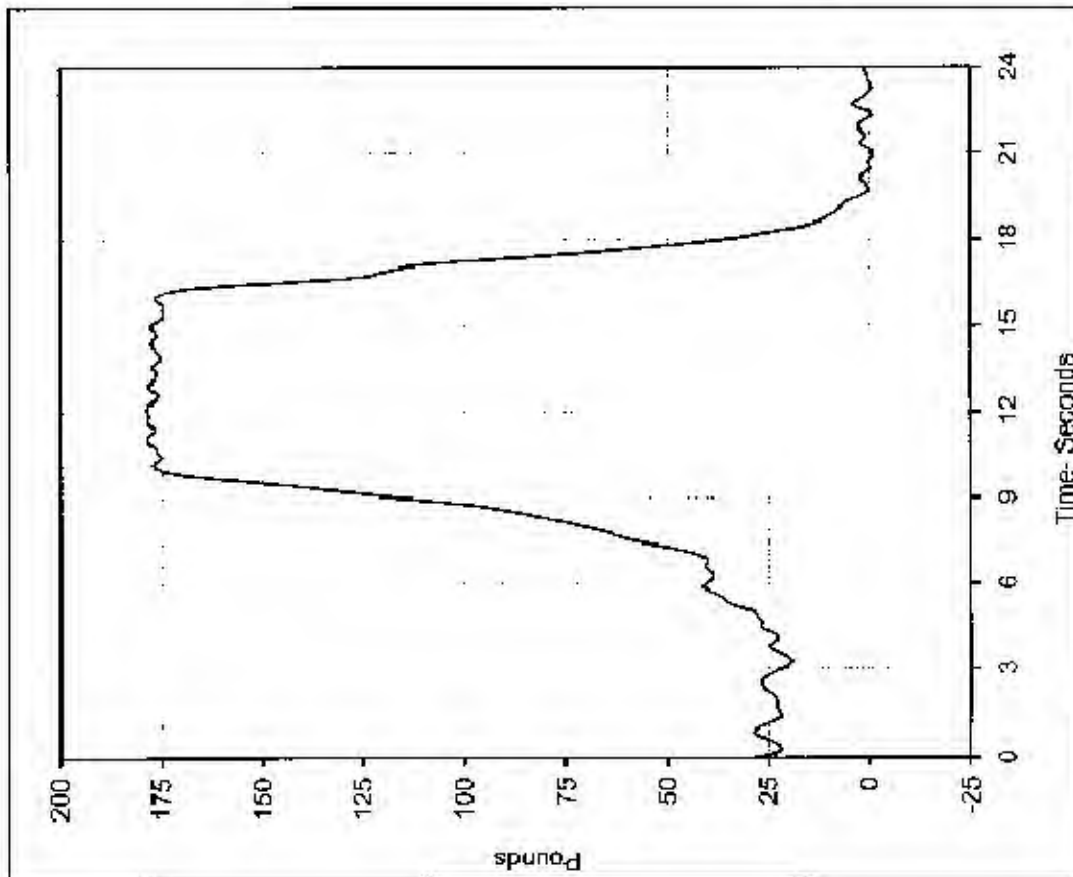
RIGHT REAR SEAT, SEAT BACK

TOP ANCHOR

POSTTEST

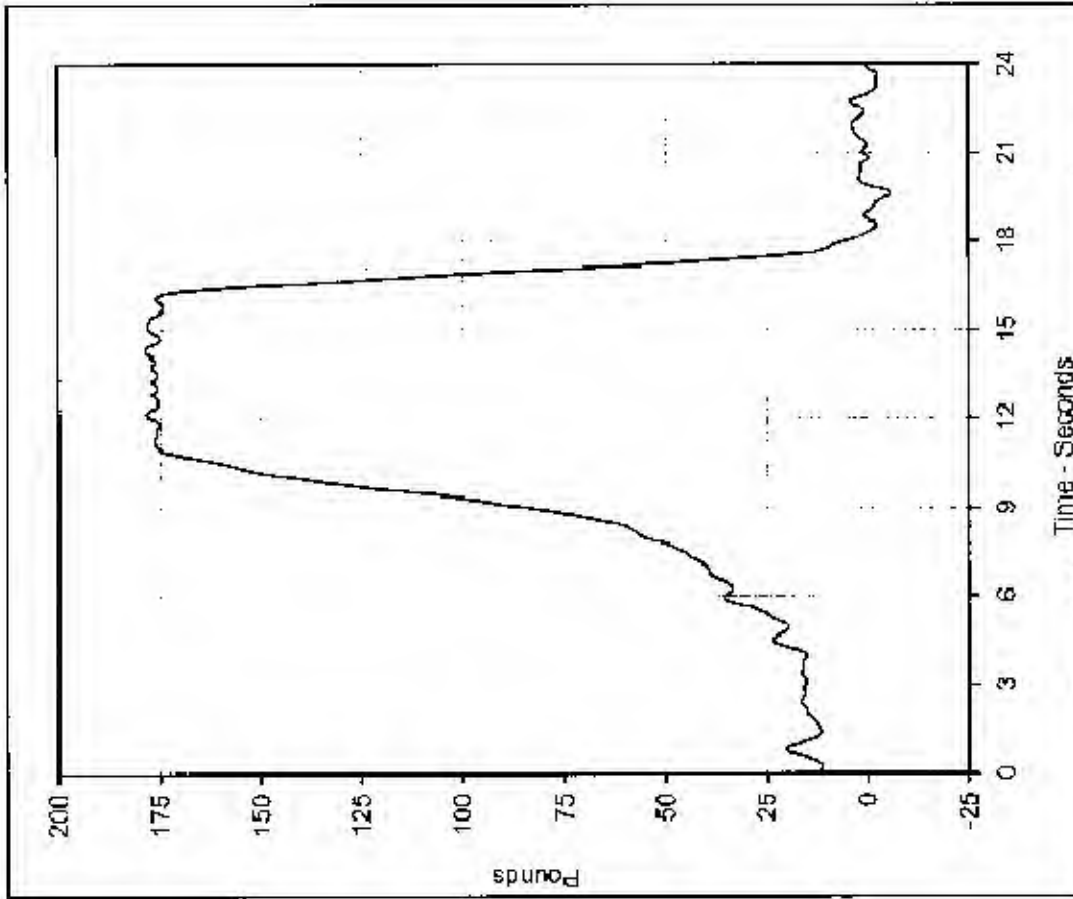
Figure A-130: Seat Anchor, Right Rear Seat, Seat Back, Post-Test

APPENDIX B
DATA PLOTS



Curve Description		CURNO	Type
Driver Upper X-Member		001	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	178.6	12.1	-2.0	24.5	1



Curve Description		CURNO	Type
Pass. Upper X-Member		002	FIL

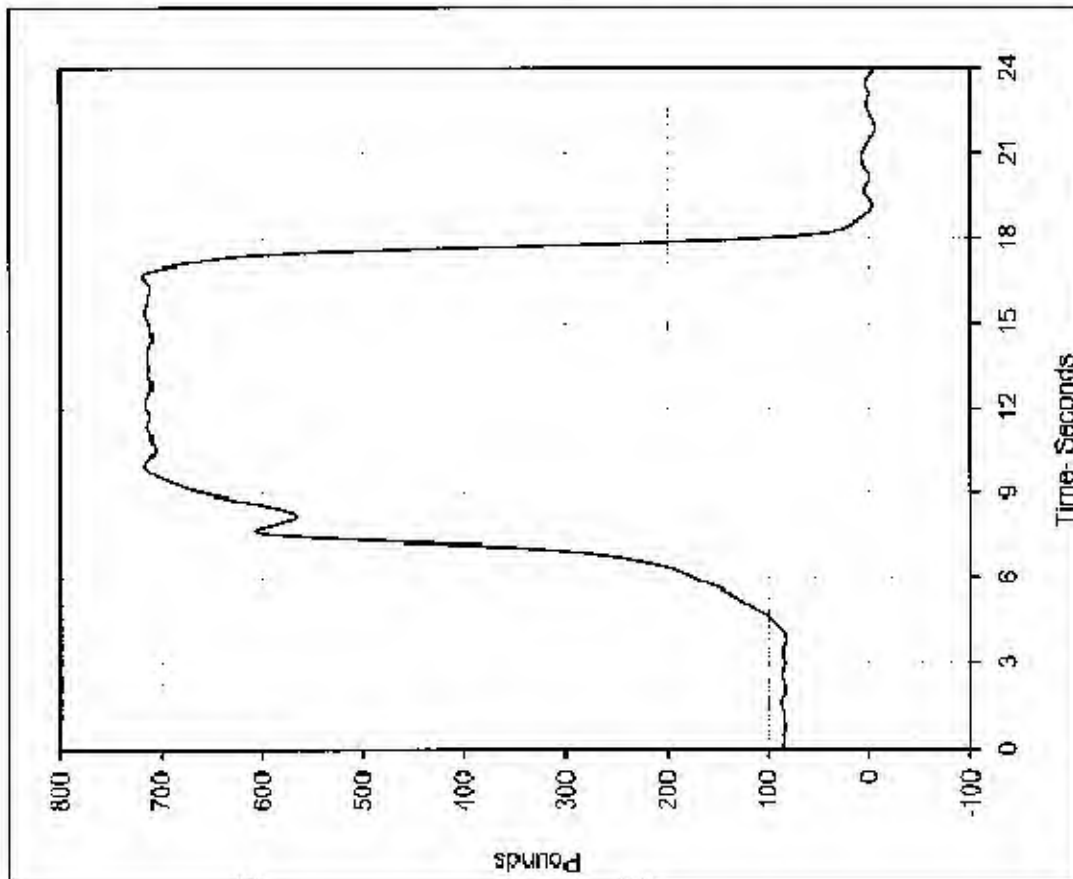
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	178.4	14.3	-5.4	19.8	1

Test Program:
Test Vehicle:

FMVSS 207 At Moment (Front)
2003 Honda Civic DX 2 Door Coupe

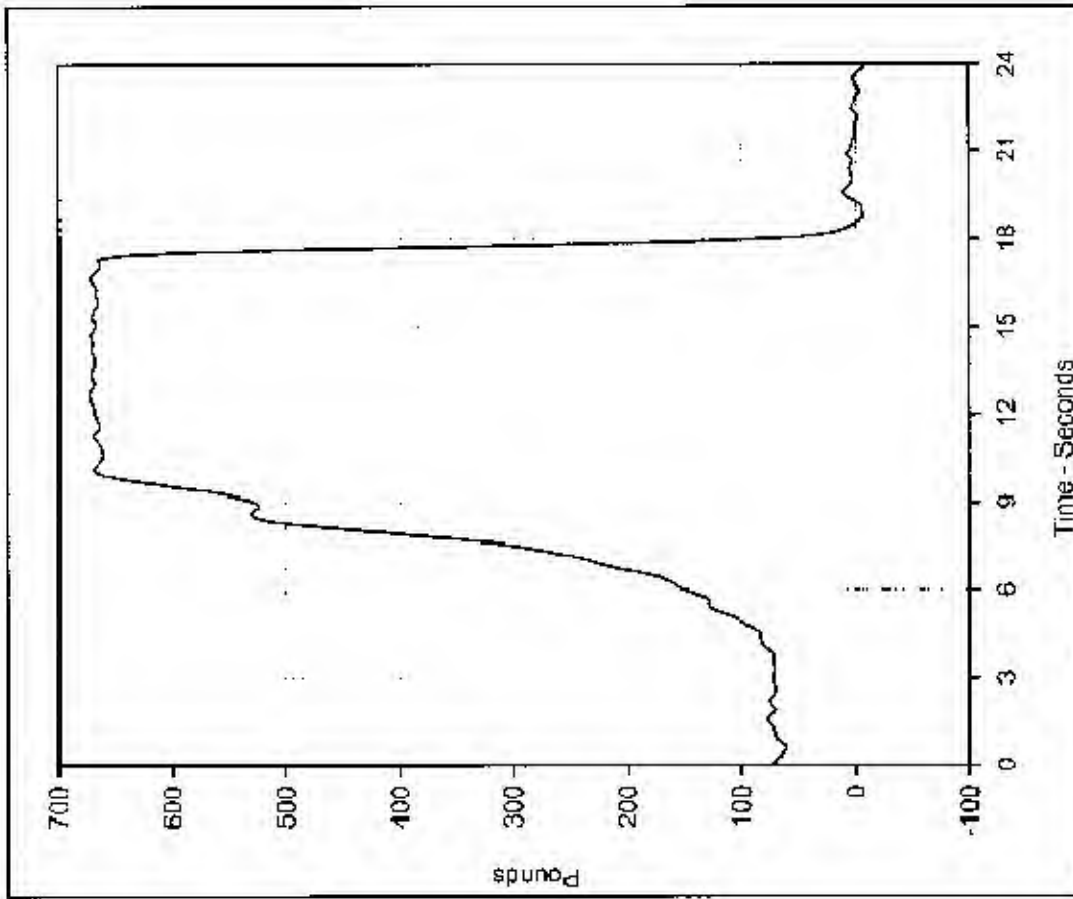
Test Date: 8/18/03
Project No.: C35303





Curve Description		CURNO		Type	
Driver Seat Assembly		001		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	718.1	15.7	-5.9	21.9	1



Curve Description		CURNO		Type	
Pass. Seat Assembly		002		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	672.4	12.7	-7.6	24.0	1

Test Program:

FMVSS 207 AH Seat Frame & Adjusters (Front)

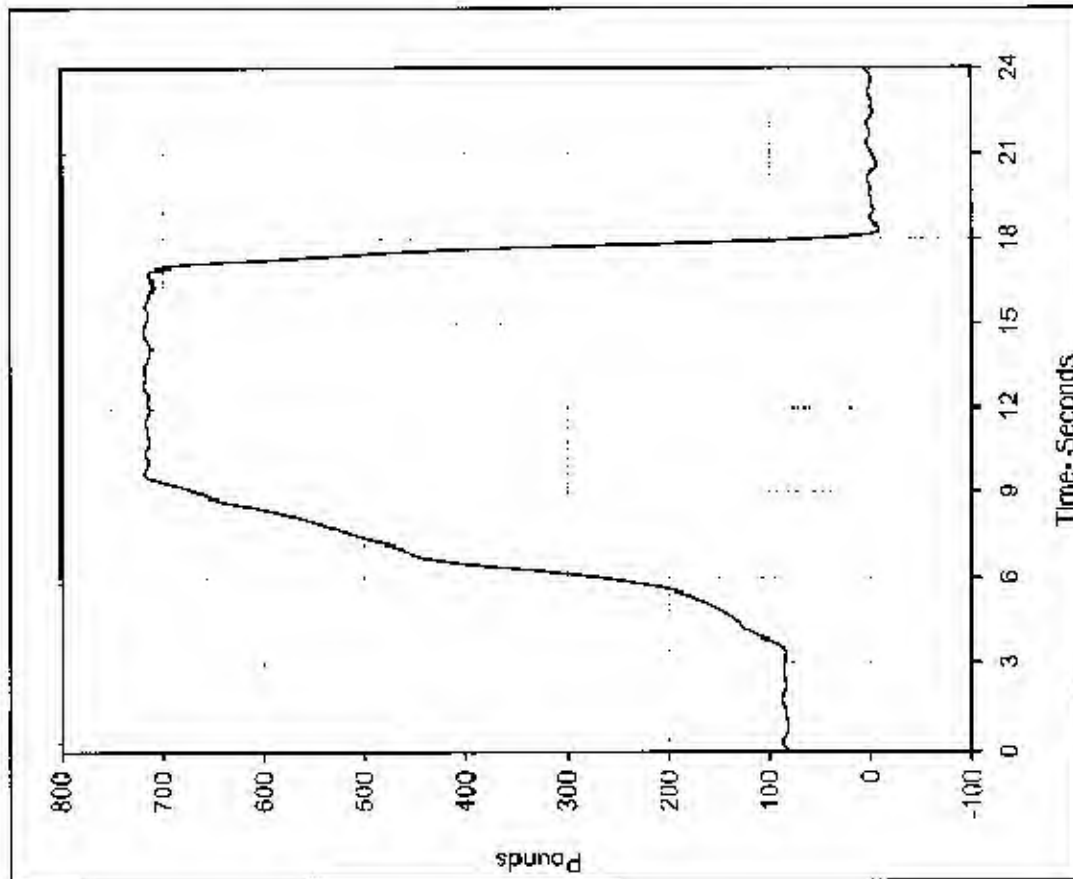
Test Date: 8/18/03



Test Vehicle:

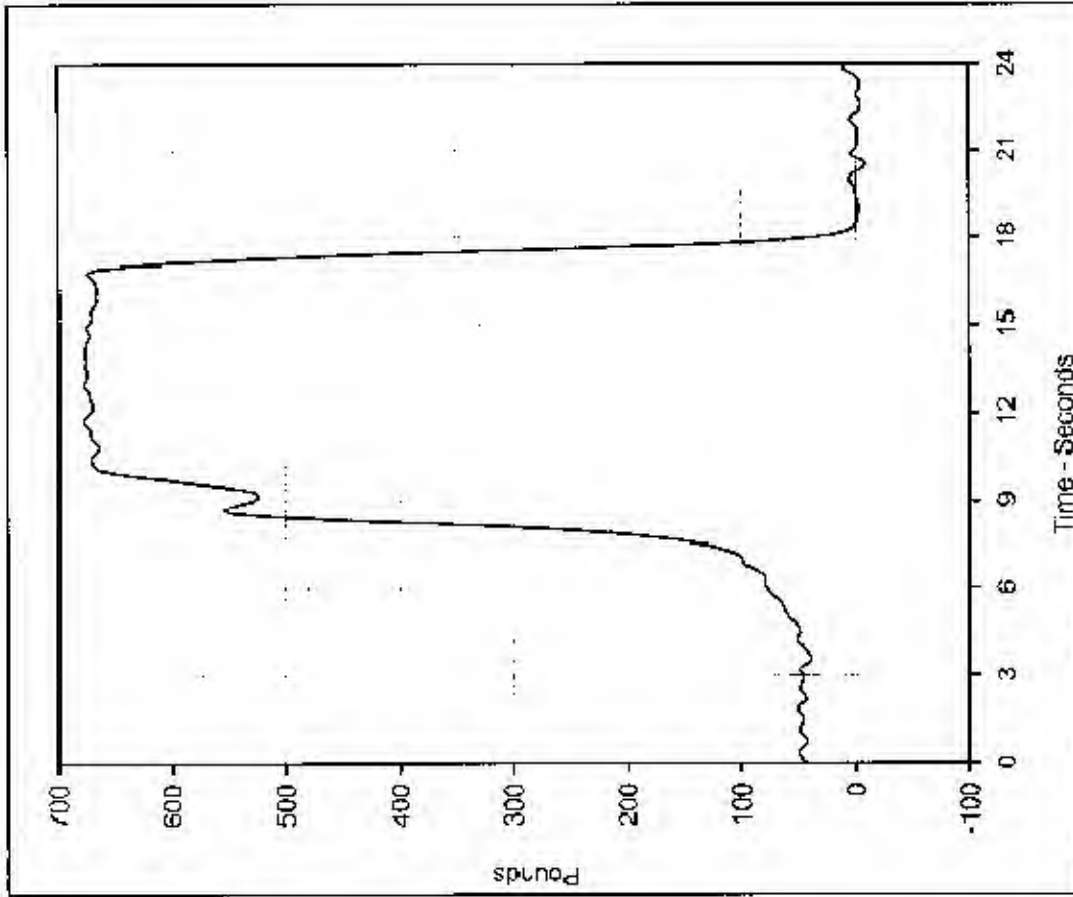
2003 Honda Civic DX 2 Door Coupe

Project No.: C35303



Curve Description		CURNO	Type
Driver Seat Assembly		001	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	718.3	12.9	-8.9	18.3	1



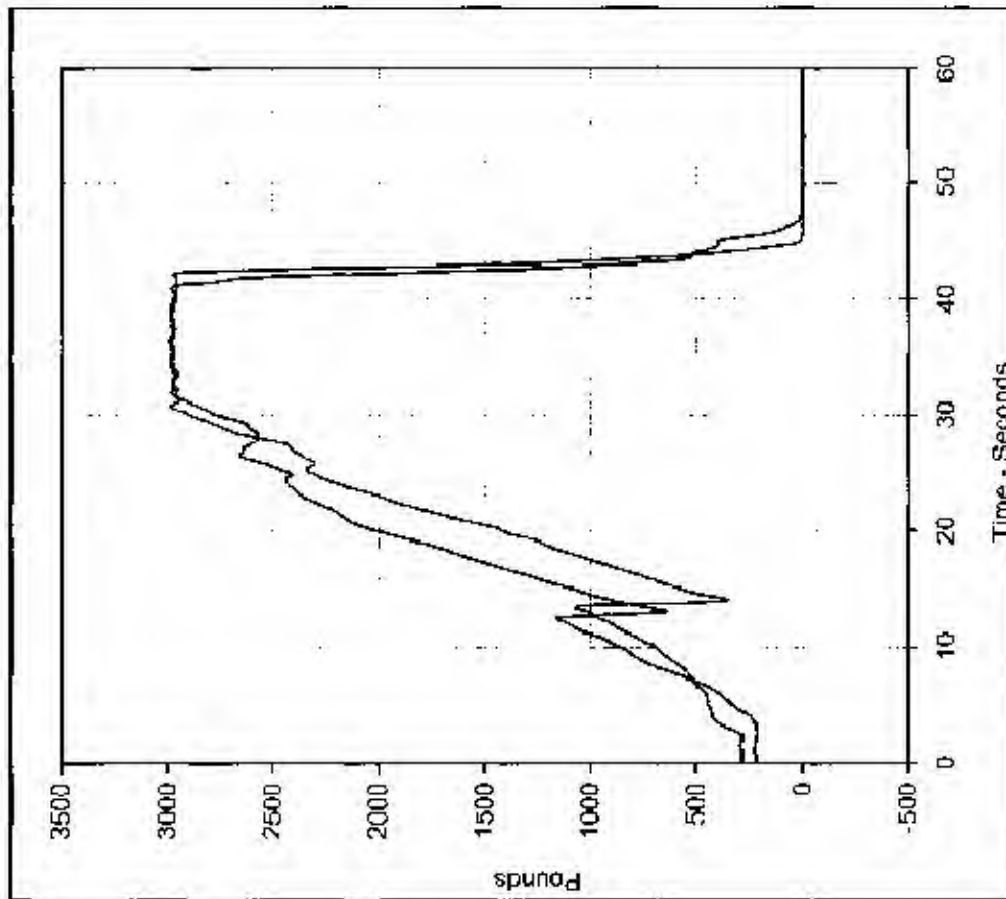
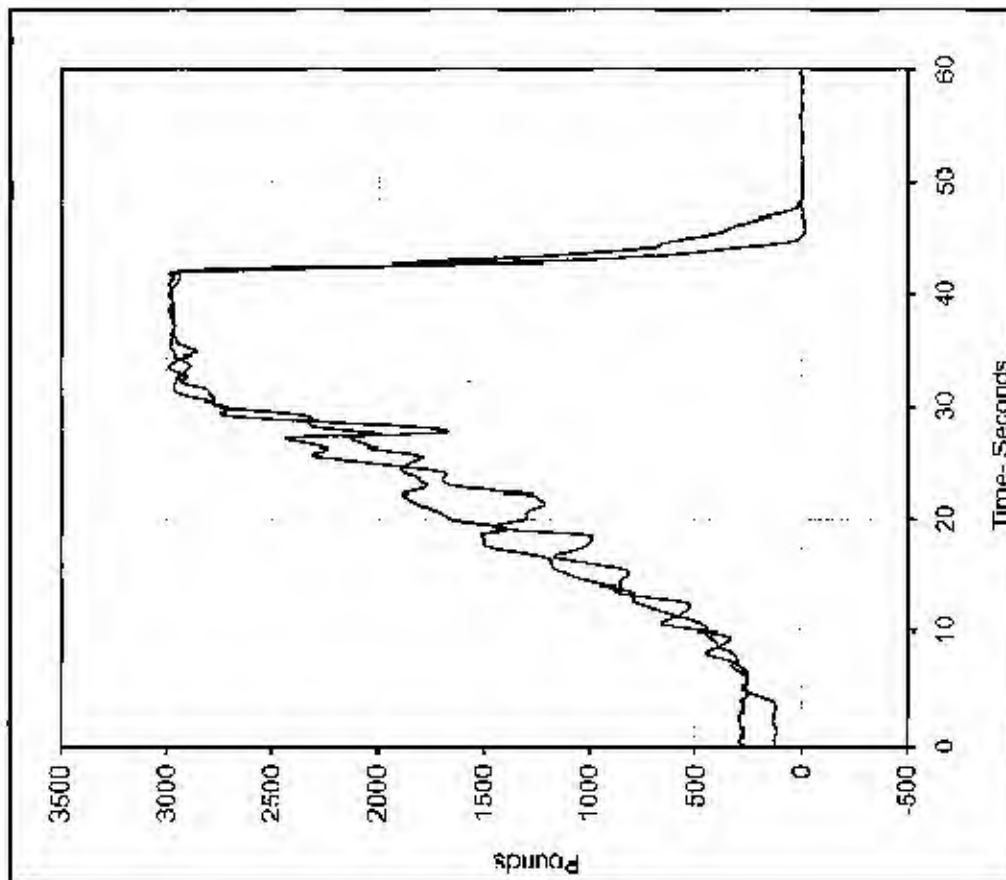
Curve Description		CURNO	Type
Pass. Seat Assembly		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	677.8	11.8	-7.7	20.5	1



Test Date: 8/18/03
Project No: C35303

Test Program: FMVSS 207 Fwd. Seat Frame & Adjusters (Front)
Test Vehicle: 2003 Honda Civic DX 2 Door Coupe



Curve Description	CURNO	Type
Driver Lap Belt Force	001	FIL
Driver Shoulder Belt Force	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2989.5	41.0	-6.1	58.9	1
Pounds	2989.2	38.5	-19.2	45.7	1

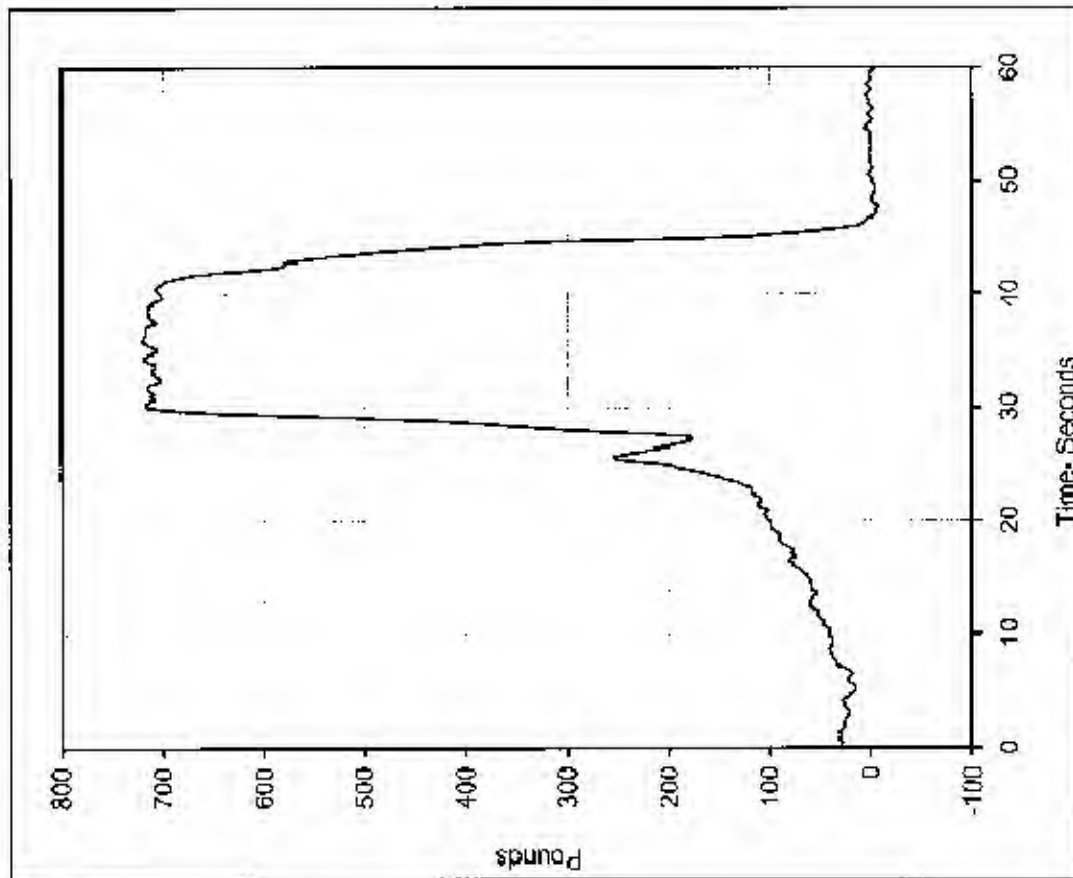
Test Program: FMVSS 207/210 Front Seats
 Test Vehicle: 2003 Honda Civic DX 2 Door Coupe

Curve Description	CURNO	Type
Pass. Lap Belt Force	004	FIL
Pass. Shoulder Belt Force	005	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2987.5	38.9	-5.8	60.0	1
Pounds	2989.7	36.2	-8.5	54.2	1

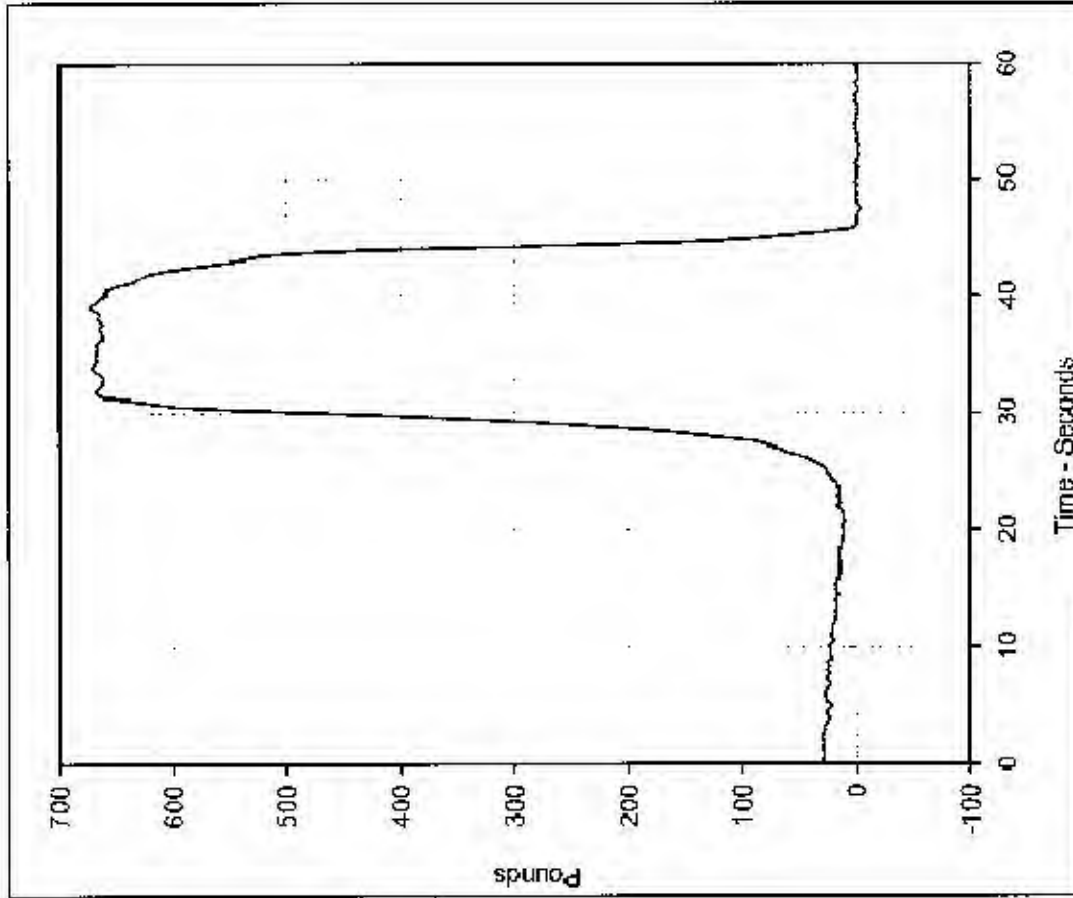
Test Date: 8/19/03
 Project No.: C35303





Curve Description	CURNO	Type
Driver Seat Force	003	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	719.6	36.0	-7.5	47.6	1



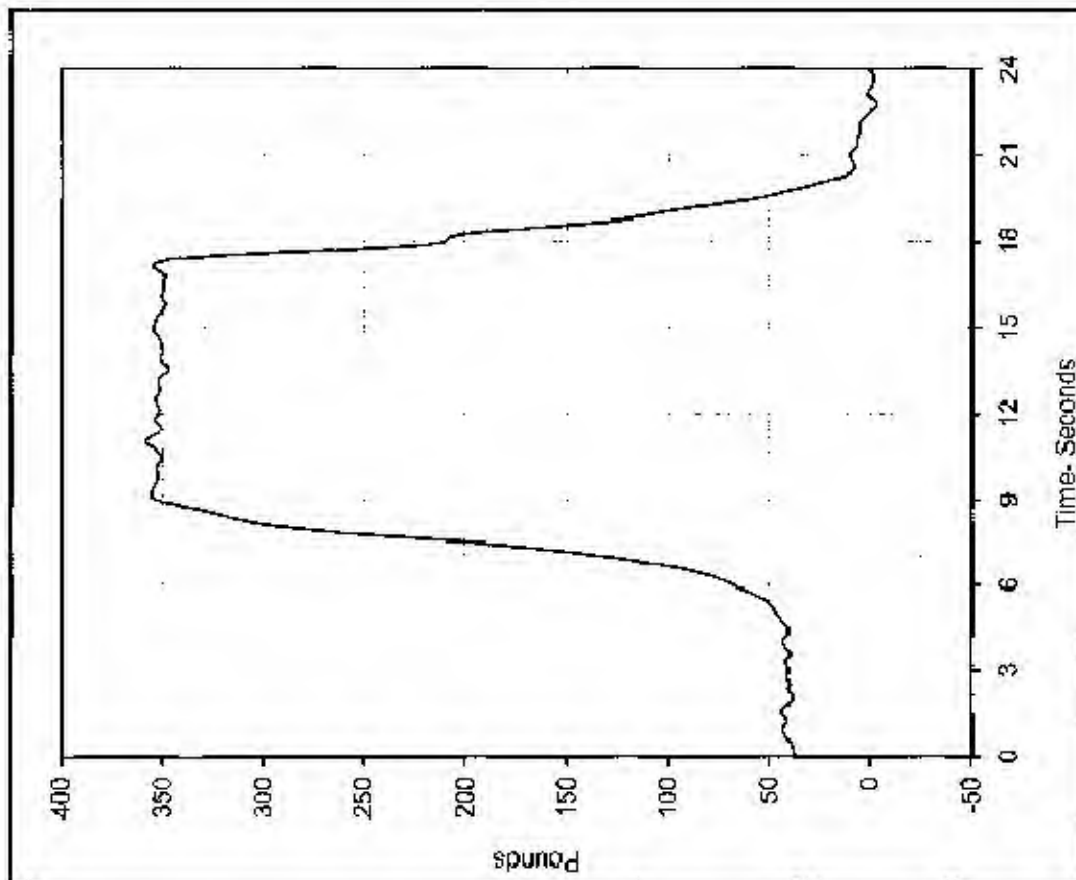
Curve Description	CURNO	Type
Pass. Seat Force	006	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	672.9	39.0	-3.9	47.5	1



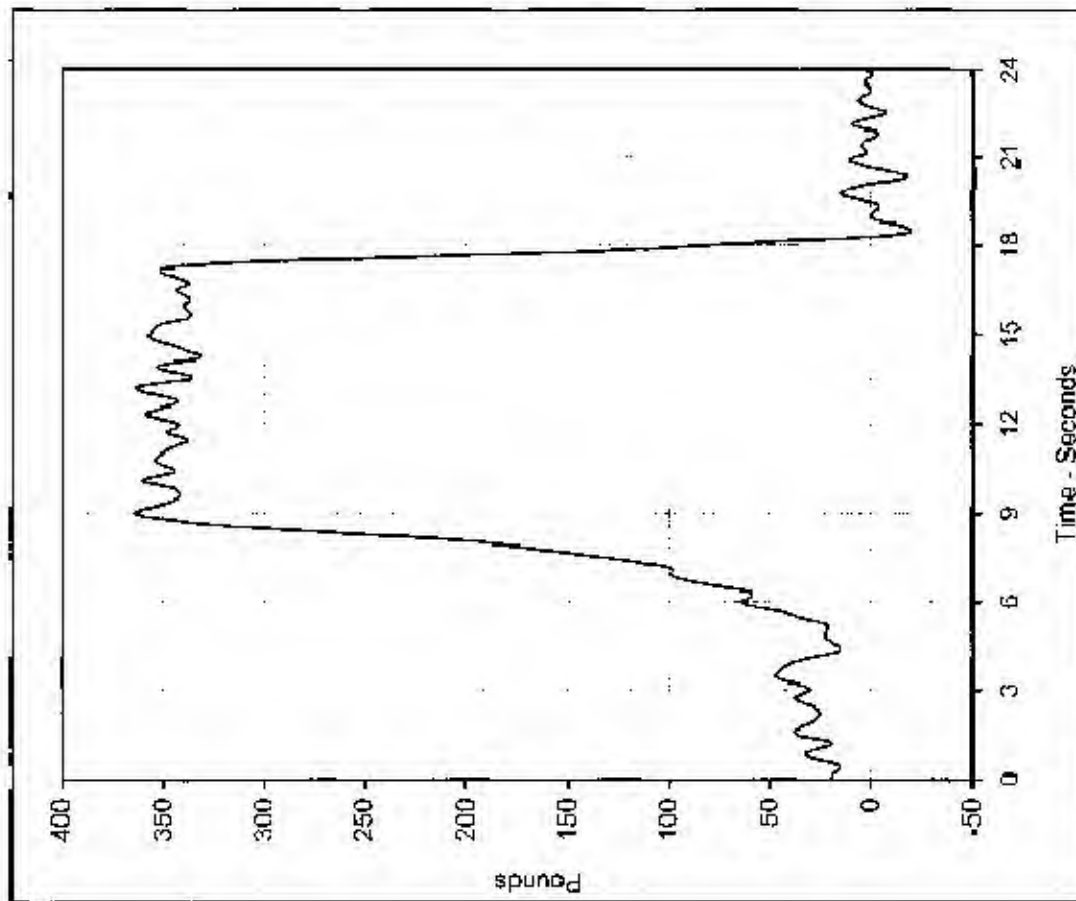
Test Date: 8/19/03
Project No.: C35303

Test Program: FMVSS 207/210 Front Seats
Test Vehicle: 2003 Honda Civic DX 2 Door Coupe



Curve Description		CURNO		Type	
Left Rear Pass. Seatback		001		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	357.9	11.0	-7.5	25.0	1



Curve Description		CURNO		Type	
Right Rear Pass. Seat Back		002		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	363.4	9.0	-32.2	25.0	1

Test Program:

FMVSS 207 Aft Moment (Rear)

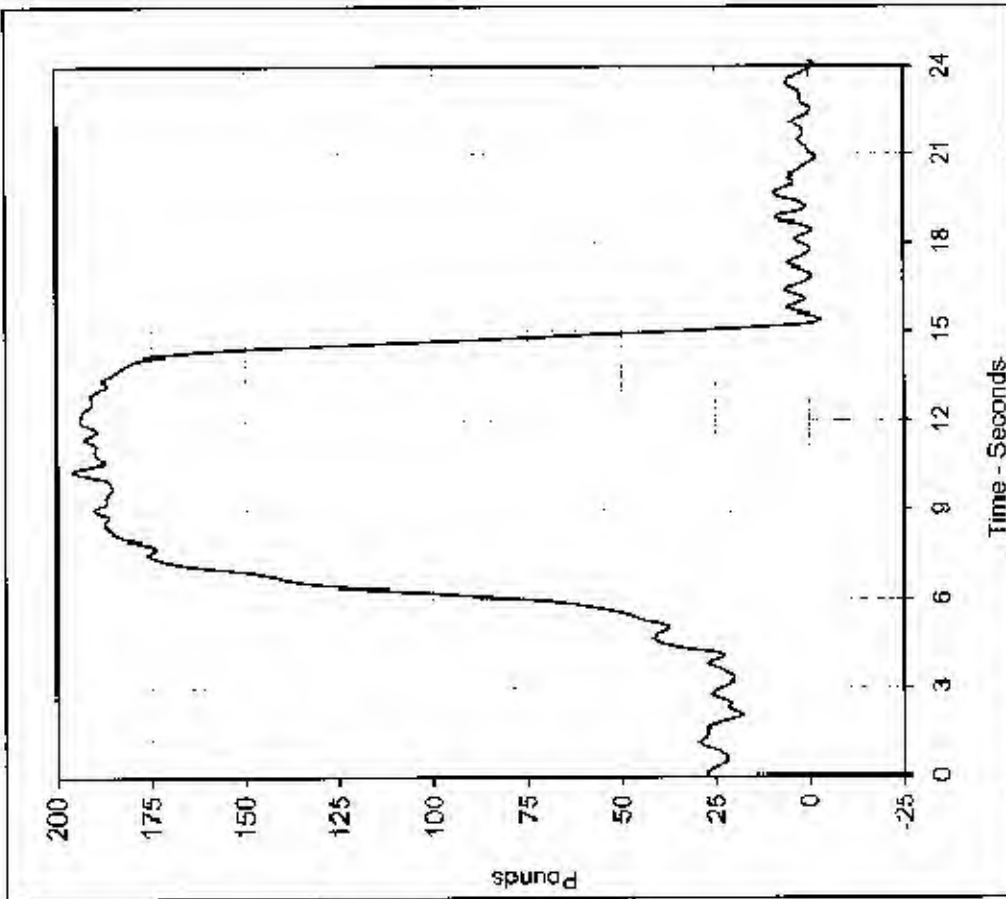
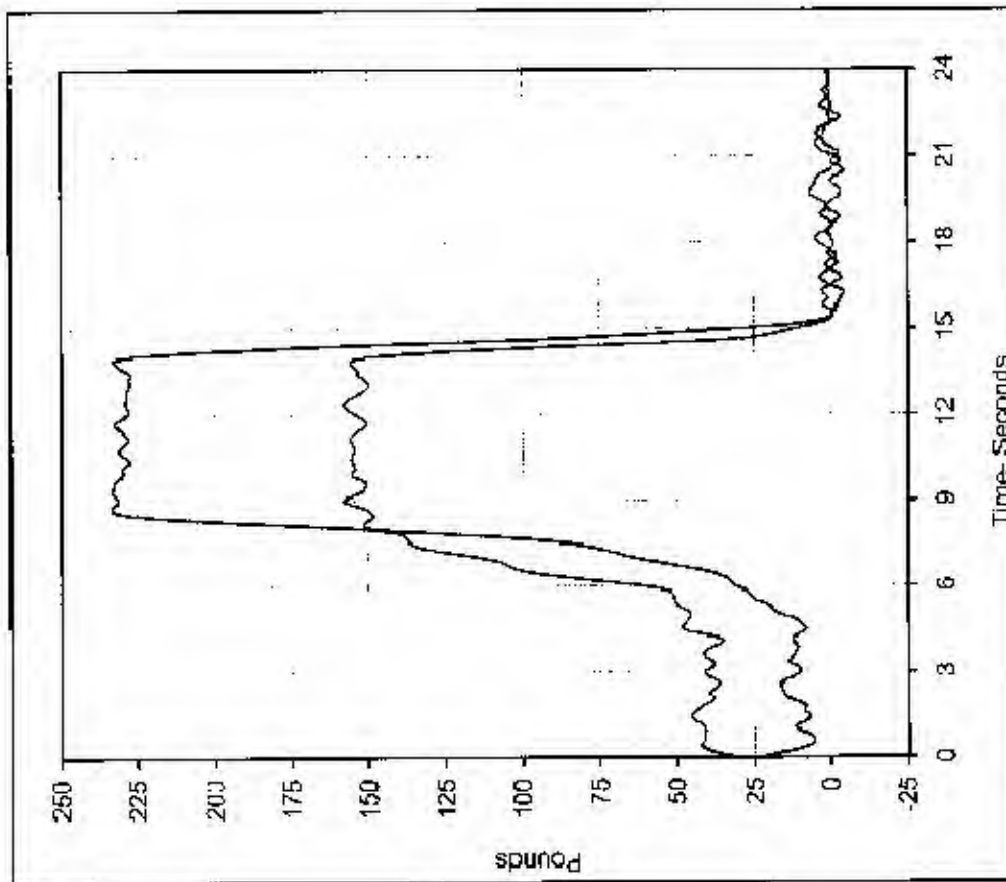
Test Date: 8/19/03



Test Vehicle:

2003 Honda Civic DX 2 Door Coupe

Project No.: C35303



Curve Description	CURNO	Type
Left Rear Pass. Seat Back	001	FIL
Right Rear Pass. Seat Back	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	233.7	8.8	-4.6	24.3	1
Pounds	158.1	9.0	-3.3	16.8	1

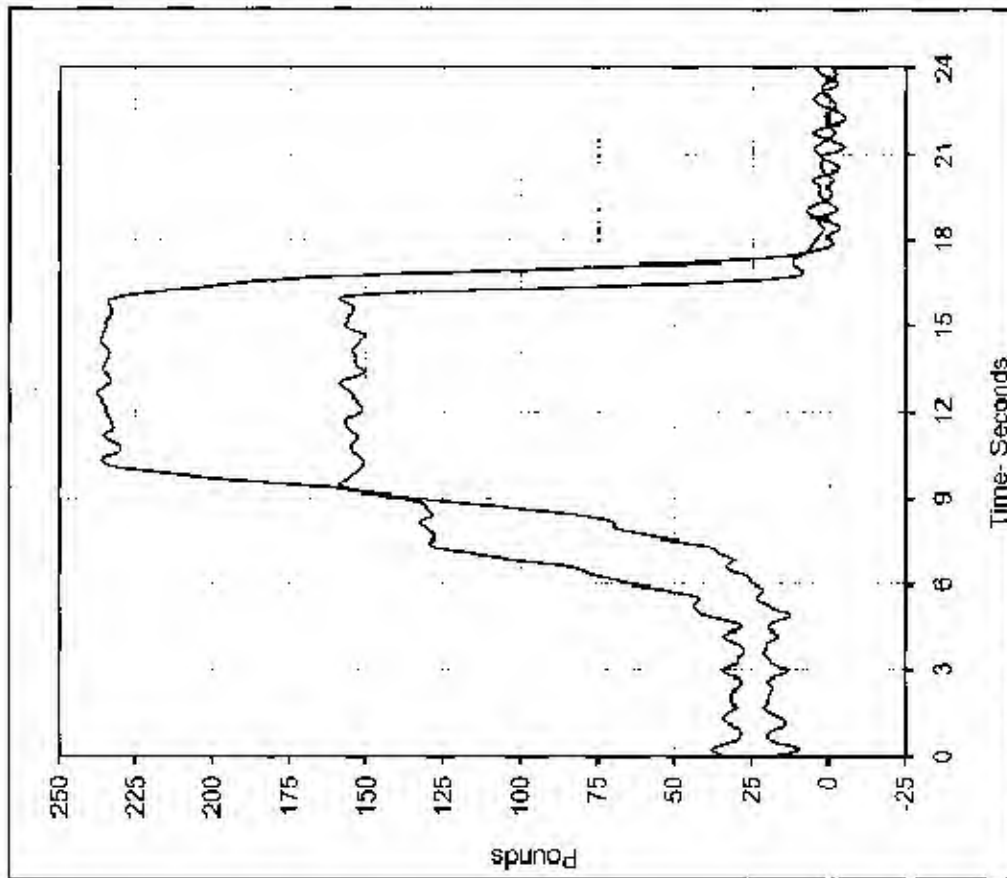
Test Program: FMVSS 207 Alt Seatback & Seat Cushion (Rear)
 Test Vehicle: 2003 Honda Civic DX 2 Door Coupe

Curve Description	CURNO	Type
Center Rear Pass. Seat Cushion	004	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	195.7	10.3	-2.9	15.4	1

Test Date: 8/19/03
 Project No: C35303

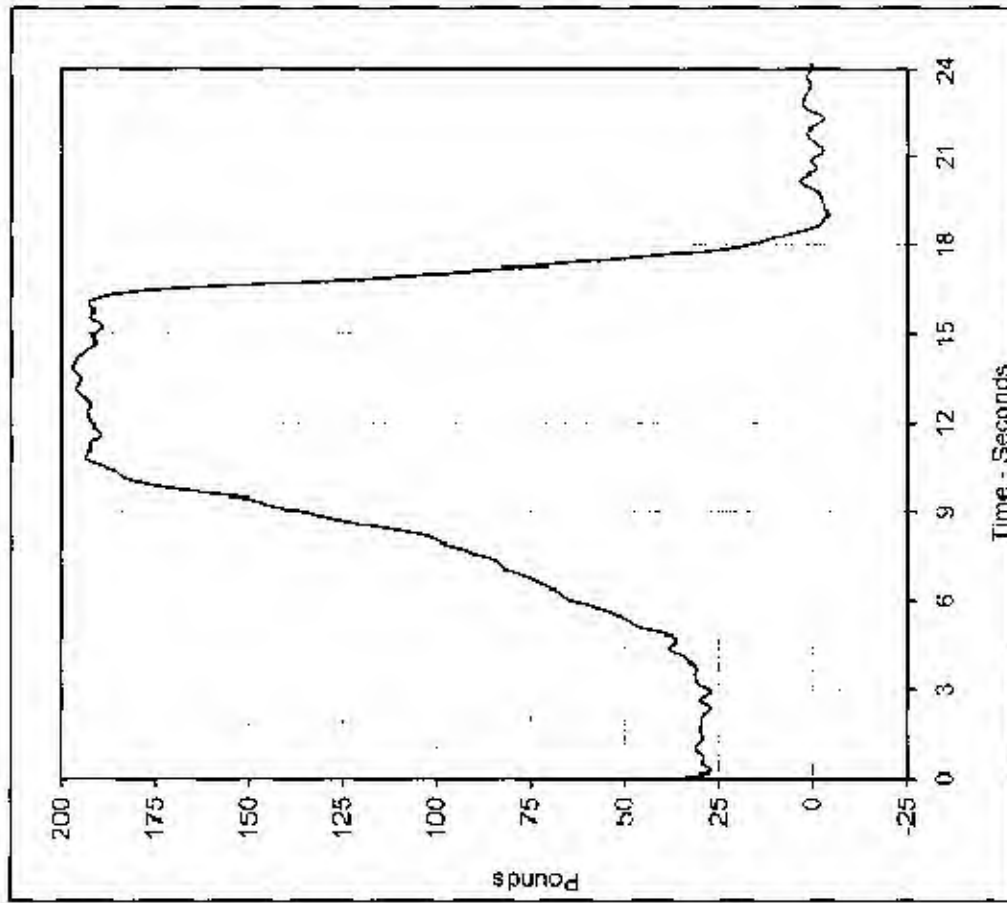




Curve Description	CURNO	Type
Left Rear Pass. Seat Back	001	FIL
Right Rear Pass. Seat Back	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	238.0	12.6	-3.2	18.5	1
Pounds	159.0	9.4	-5.2	22.3	1

Test Program: FMVSS 207 Forward Seatback & Seat Cushion (Rear)
 Test Vehicle: 2003 Honda Civic DX 2 Door Coupe



Curve Description	CURNO	Type
Center Rear Pass. Seat Cushion	004	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	196.8	13.9	-3.6	19.1	1

Test Date: 8/19/03
 Project No.: C35303



APPENDIX C
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

FMVSS 207
Test Equipment List
8/18/03
2003 Honda Civic DX 2 Door Coupe

Description	Manufacturer	Model No.	Serial No.	Limit	Accuracy	Cal. Date	Due Cal.
Hydraulic Pump	Lincoln	T-3825-C	2460952	8 gpm @ 2700 psi			
Computer	Panasonic	CF-71	81MAA01852	N/A	N/A	N/A	N/A
TDAS	DTS	TDAS	DM0103	N/A	SAE J211	11/15/02	11/15/03
Load Cell	Lebow	3106	1001	300 LB	± 1.0%	6/2/03	12/1/03
Load Cell	Lebow	3132	622	500LB	± 1.0%	6/2/03	12/1/03
Load Cell	BLH	U3G1	49296	3K	± 1.0%	6/1/03	11/30/03
Load Cell	BLH	U-1C	N873	6K	± 1.0%	6/2/03	12/1/03
Load Cell	BLH	U-1C	11139	12K	± 1.0%	6/2/03	12/1/03
Load Cell	Alinco	342-E	22438-B	10K	± 1.0%	5/30/03	11/28/03
Load Cell	Alindo	342-E	22440-A	10K	± 1.0%	5/30/03	11/28/03
Load Cell	BLH	U3G1	81711A	10K	± 1.0%	6/2/03	12/1/03

